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There are nine million drug addicts in the country of which nearly two million are believed to be in the age of 15 to 25. Drug abuse is rapidly increasing in Pakistan, especially among youth including those in schools, colleges and universities, resulting in serious social and health implications. The growing trend of drug abuse in education institutions has posed a serious threat to the lives of students. According to one survey, almost 50 per cent students of different educational institutions in Islamabad and Lahore are addicted to drugs, and majority of those students belong to elite class, having no issue of affordability. Drug abuse jeopardises student’s health, both physically and mentally, because of which they cannot concentrate on their studies.

Drug trafficking once viewed largely as a social and criminal problem, has transformed in recent years into a major threat to the health and security of people and regions. Young people are more susceptible to drug use. Young people often talk about the “highs” but may not be aware of the many “lows”. The widespread availability of drugs in Pakistan left the souls of the youth as lifeless as they could be.

Each year the United Nation Office on Drugs and Crime (UNODC) selects theme for this year it is “Listen First”. Listening to children and youth is the first step to help them grow healthy and safe. “Listen First” is an initiative to increase support for prevention of drug use that is based on science and is thus an affective investment in the well-being of children and youth, their families and their communities.

Majority of drug addicts usually start with soft drugs like charhatiya, gutka and pan, and then move to hard drugs like heroin, opium and cocaine, etc. The purchase of drugs or alcohol by young people is usually through dealers or ‘agents’, who are just a phone call away. The reason why the number of drug addicts is increasing alarmingly is that the drug cartels in Pakistan are fully backed and supported by the powerful and the wealthy that have got ample influence. Apparently, police and drug mafia are colluding. Moreover, all things are easily and cheaply available everywhere in Pakistan. Often drug abuse is bred in factors such as risk taking behaviours that may involve experimenting with narcotics, smoking and alcohol, social isolation, stress, anxiety, depression, peer pressure (bad company), modern life style, hippy culture, unemployment, excessive pocket money by parents and lack of supervision and attention, the desire for social acceptance, boredom, curiosity, just to feel good, weak religious belief and lot of free time at their disposal, easy access to drugs at low prices, existence and presence of drug dens, to heighten sexual pleasure, to overcome frustration and or tragedies, use as pain medication and fashion.

Most of these drug addicts begin by seeking recreation from drugs that are highly addictive and lead to this anti-social habit. Eventually, the body starts to demand frequent use, until a time comes when the person can no longer function normally without the influence of such drugs. Researches have proved that people who start smoking cigarettes and or drink alcohol at a young age are much more likely to experiment with illegal drugs than people who do not smoke or drink. “Efforts should be made to control tobacco smoking in the country because it is the gateway to drug abuse.” While some of the physical effects of drugs might sound nice, they do not last long. Many people get depressed and start feeling sick. Physical health and sexual health of addicts weaken so rapidly that a young man of thirty looks like an old man of over-sixties. Drug use in general leads to a number of health problems, such as malnutrition, apathy, menstrual irregularities and irregular heart rhythm. Here is economic breakdown of family, loss of self-confidence and will to work, loss of job, indulgence in crimes such as theft, and suicidal thoughts. Drug addicts are also more prone to accidents and are at higher risk of HIV/AIDS, hepatitis B and C, tuberculosis, suicide, overdose deaths and cardiovascular diseases. Married drug addicts have high probability of having mentally retarded and physically handicapped children. Young people who use cannabis are doubling their risk of potential symptoms like schizophrenia, hallucinations, hearing voices, etc., he explained.

Parents can recognize the addict children by noting these symptoms: deep psychological trouble, strong loss of appetite, difficulty in breathing and fatigue, strong nervous disturbance, long home absences, much money demand, telling lies to use money, isolation, remaining away from others, long sleeping time, laziness, pale face, tremors in fingers, constipation, irregularities in work and studies, no interest in everyday life, red eyes, slurred speech, circles under the eyes, neglect of personal hygiene and marks and traces of abusing on the body.

So one should be stigmatized against because of his dependence on drugs. Law enforcement agencies must treat drug users as victims rather than criminals. Drug dependence is a disease, not a crime. The real criminals are the drug traffickers. Awareness campaigns through mass media, essay contests, lectures and declamation contest in schools, colleges and universities should be run in order to create awareness about the ill effects of drug addiction. Provincial education departments should develop a curriculum against drugs for inclusion in textbooks at school, college and university levels. Public awareness campaigns are needed to be run every day on television and radio. All television channels should devote 0.5 per cent of air time to raise awareness on the devastations of drug addiction. More recreational facilities should be created to take the youth off the drugs.

The need of hour is to come up with effective measures to curb this menace. Counsellors should be appointed in education institutions so that students can seek help when needed. Focal persons and vigilance committees should be appointed in education institutions. The anti-narcotics force should play a vigilant and active role and conduct combing operations at education institutions. Installing CCTV cameras at various points in schools, colleges and universities would also help the law-enforcement agencies spotting the group of students involved in the activity. Government agencies should come down hard on drug cartels, which is the only way to reduce the incidence of drug abuse in the country.

Parents should be vigilant and should keep their children busy and motivate them to say their prayers regularly.
An Audit of Un-booked Obstetric Patients and Their Outcome
Sadia Zahoor, Iffat Yasmin and Nadia Zaman

ABSTRACT

Objective: To assess the un-booked obstetric patients and their outcome presenting at Sheikh Zaid Hospital Rahim Yar Khan.

Study Design: Cross sectional study

Place and Duration of Study: This study was conducted at the Department of Obstetrics & Gynecology Sheikh Zaid Hospital Rahim Yar Khan from March 2016 to September 2016.

Materials and Methods: Total 182 un-booked obstetric patients having age 18 to 35 years were selected. Patients having age >35 years, patients with any systemic disease like diabetes mellitus and hypertension on previous medical record, patients with ruptured uterus on the basis of history and examination, patients with 2 or more C-sections were excluded from the study. Women who have never attended or attended antenatal clinics only once or twice were considered as un-booked cases.

Results: Mean age of the patients was 26.87 ± 6.49 years. Total cases 82 (45%) were booked and un-booked cases were 100 (55%). Total vaginal deliveries were 71 (39%) and caesarean section was performed in 111 (61%) cases. Family income of 97 (53%) cases was Rs. <15000, family income of 57 (31.3%) cases was Rs. 15001 – 30000 and family income of 28 (15.4%) cases was Rs. >30000. Total 101 (55%) cases were primipara and 81 (45%) cases were multipara, 116 (64%) belonged to rural area and 66 (36%) belonged to urban area.

Conclusion: In present study, high percentage of un-booked obstetrics was noted and in most of the cases c-section was performed. Insignificant association of mode of delivery with age, income status, area of residence and parity was noted. But significant association between education status and mode of delivery was observed.

Key Words: Un-booked, parity, antenatal care, Booked, Obstetric complications

INTRODUCTION

Antenatal care is a perfect example of preventive medicine. The aim is to ensure the well-being of mother and child. The basic components of antenatal care have been defined as early and continuous risk management, health promotion, psychosocial intervention and follow-up.1 Antenatal care is an important determinant of high maternal mortality rate. 1 of the basic components of maternal care on which life of mothers and babies depends.2,3 Several studies conducted in developing countries on demographic and socio-cultural factors influencing the use of maternal health care services, have shown that factors like maternal age, number of living children, education, place of residence, occupation, religion and ethnicity are significantly associated with the use of antenatal care.4,5 The other factors like poor state of health services, widespread ignorance, prevailing superstitions, traditional beliefs and customs and high hospital bills tend to make traditional medicine and faith based practices arguably more popular than orthodox obstetric practice in our communities. Evidence based medicine indicates that most pregnancy related maternal deaths could be averted with access to professional care during pregnancy and delivery care and puerperium, as well as access to emergency obstetric care in the event of complication.6 Conversely, various studies have associated lack of proper antenatal care with adverse maternal outcomes.6 Further, a study done in Nigeria has concluded that no antenatal care, parity, level of education, and mode of delivery were significantly associated with maternal mortality. While, Low maternal education, high parity, emergency caesarean delivery, and high risk patients risk independently predict maternal mortality.7 There is a high turnover of obstetric patients in south Punjab health care facilities with increasing number of un-booked obstetric cases. This study may help to reduce their morbidity and mortality in prevailing poor socio economic and low literate population of this region. As this aspect is not studied locally.
MATERIALS AND METHODS

This cross sectional study was conducted at Department of Obstetrics & Gynecology Sheikh Zaid Hospital Rahim Yar Khan from March 2016 to September 2016. Total 182 un-booked obstetric patients having age 18-35 years both primary and multi paras were selected for this study. Patients having age ≥35 years, patients with any systemic disease like diabetes mellitus and hypertension on previous medical record, patients with ruptured uterus on the basis of history and examination, patients with 2 or more C-sections were excluded from the study.

Women who have never attended or attended antenatal clinics only once or twice were considered as un-booked cases.

An approval was taken from the institutional review committee of the hospital and written informed consent was taken from every patient.

Physical examination of all the patients was done and history was taken. Caesarean section was performed in case of fetal or maternal complication. Mode of delivery was noted on pre-designed proforma as Cesarean Section or vaginal delivery. Demographic profile of all the patients along with booking status, income status, area of residence, education status and parity was noted on proforma.

All the data was entered in SPSS version 18. The quantitative variables of the study i.e. age and gestational age were presented as Mean ± SD. The qualitative variables like booking status (booked or un-booked) outcome (in term of mode of delivery vaginal or by caesarean section), Income status, education status of the patients (educated or un-educated) and parity (primary para or multi para) were presented as frequency and percentages. Stratification was done for age, income status and residential area, education status and mode of delivery. Post stratification chi-square test was applied. P value ≤0.05 was considered as significance.

RESULTS

In present study mean age of the patients was 26.87 ± 6.49 years. Out of 182 cases, booked cases were 82 (45%) and un-booked cases were 100 (55%). (Fig. 1) Total vaginal deliveries were 71 (39%) and caesarean section was performed in 111 (61%) cases. (Fig. 2) Stratification of mode of delivery in relation to age was done and two groups were made, age group 18-27 years and age group 28-35 years. Total 124 (60.13%) patients were belonged to age group 18-27 years and 58 (31.87%) patients belonged to age group 28-35 years. Vaginal delivery was done in 45 (36.29%) cases and 26 (44.83%) cases of age group of 18-27 years and 28-35 years respectively. Age of the patients was insignificantly (P = 0.3281) associated with mode of delivery. (Table 1)
Table No.4: Stratification for mode of delivery in relation to education status

<table>
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<th>Education status</th>
<th>Mode of delivery</th>
<th>Total</th>
<th>P. value</th>
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<td></td>
<td>Vaginal (%)</td>
<td>caesarean section (%)</td>
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<tr>
<td>Un-educated</td>
<td>18 (48.65)</td>
<td>19 (51.35)</td>
<td>37 (20.33)</td>
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<td>Primary</td>
<td>25 (48.08)</td>
<td>27 (51.92)</td>
<td>52 (28.57)</td>
</tr>
<tr>
<td>Middle</td>
<td>12 (36.36)</td>
<td>21 (63.64)</td>
<td>33 (18.13)</td>
</tr>
<tr>
<td>Matric</td>
<td>10 (38.46)</td>
<td>16 (61.54)</td>
<td>26 (14.29)</td>
</tr>
<tr>
<td>Intermediate</td>
<td>2 (9.52)</td>
<td>19 (90.48)</td>
<td>21 (11.54)</td>
</tr>
<tr>
<td>Above Intermediate</td>
<td>4 (30.77)</td>
<td>9 (69.23)</td>
<td>13 (7.14)</td>
</tr>
<tr>
<td>Total</td>
<td><strong>71 (39)</strong></td>
<td><strong>111 (61)</strong></td>
<td><strong>182</strong></td>
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Table No.5: Stratification for mode of delivery in relation to parity

<table>
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<th>Parity</th>
<th>Mode of delivery</th>
<th>Total</th>
<th>P. value</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Vaginal (%)</td>
<td>caesarean section (%)</td>
<td></td>
</tr>
<tr>
<td>Primary</td>
<td>43 (42.57)</td>
<td>58 (57.43)</td>
<td>101 (55.5)</td>
</tr>
<tr>
<td>Multipara</td>
<td>28 (34.57)</td>
<td>53 (65.43)</td>
<td>81 (44.5)</td>
</tr>
<tr>
<td>Total</td>
<td><strong>71 (39)</strong></td>
<td><strong>111 (61)</strong></td>
<td><strong>182</strong></td>
</tr>
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Out of 182 patients, 97 (53.3%) patients belonged to Rs. <15000 income group and vaginal delivery was performed in 40 (41.24%) patients. Out of 55 (29.62%) patients belonged to income group 15001 to 30000 and vaginal delivery was performed in 19 (33.33%) patients and 28 (15.4%) patients belonged to income group >30000 and vaginal delivery was performed in 12 (46.67%) patients. (Table 3)

Stratification of mode of delivery was done in relation to age of residence. Total 116 (63.74%) patients belonged to rural area and 66 (36.26%) patients belonged to urban area. Vaginal deliveries were done in 48 (41.38%) in patients of rural area and 23 (34.85%) vaginal deliveries were done in patients of urban area. Insignificant (P = 0.4313) association between mode of delivery and residential area was observed. (Table 3)

Stratification of mode of delivery in relation to education status was done. Total 37 (20.33%) patients were un-educated followed by primary pass were 52 (28.57%), middle (33 (18.13%), matric 26 (14.29%) intermediae 21 (11.54%) and above intermediate 13 (7.14%). Vaginal deliveries were performed in 18 (48.65%), 25 (48.08%), 12 (36.36%), 10 (38.46%), 2 (9.52%) and 4 (30.77%) in un-educated, primary, middle, matric, intermediate and above intermediate patients. Significant (P = 0.044) association between education status and mode of delivery was noted. (Table 4)

Out of 182 patients, primary para was 101 (55.5%) and multipara was 81 (44.5%). Vaginal deliveries were performed in 43 (42.57%) primary para and 28 (34.57%) patients multipara. Insignificant (P = 0.2882) association between mode of delivery and parity was noted (Table 5).

**DISCUSSION**

The purpose of present study was to assess the un-booked obstetric patients and their outcome. In this study out of 182 cases, booked cases were 45% and un-booked cases were 55%. In one study by Kaur et al, the frequency of un-booked obstetric cases was 58%. Findings of this study is comparable with our study. Similarly Adelaja et al reported frequency of un-booked cases as 60.3%. Omole-Ohonsi A et al reported high percentage (89.1%) of un-booked obstetrics patients.

In present study, 40.20% of the women belonged to low socio-income status. Mothers with low socioeconomic scale used to deliver more frequently at home without trained health attendant in the developing world. On the other side, mothers of high socioeconomic scale had higher number in booked group (26.20%) as compared to their counterpart group (10.63%). It reveals that financial issue which includes cost of antenatal services and transportation might be cited as one of the factor affecting utilization of antenatal care.

In this study 51.49% women were un-booked and 37.04% multipars were un-booked which is comparable with study by Fawcus et al. This shows primiparous mothers are high risk patients. Comprehensive antenatal care should be provided to this group of patients to have better maternal and neonatal outcomes.

In present study, total vaginal deliveries were 39% and caesarean section was performed in 61% cases. In one study, Kaur et al reported caesarean deliveries as 66.67% and vaginal deliveries as 33.34% which is comparable with our findings.

In present study, a higher number of patients belonged to younger age group. Most of the deliveries performed by caesarean section. No association (P = 0.3281) was detected between mode of delivery and age of the patients.

In one study the analysis of demographic factors among booked and unbooked mothers showed that young age (p<0.001; 21-25 yrs) of mothers along with lack of awareness regarding importance of antenatal care & lack of education especially health education might have withdrawn them from taking antenatal care at an early gestational age or till the development of obstetric complication which had led them to fall into un-booked group. This issue is also documented by other studies.
which concluded that women who are less than 25yrs old and less educated are more likely to register late.\textsuperscript{16-17}

**CONCLUSION**

In present study, high percentage of un-booked obstetrics was noted and in most of the cases c-section was performed. Insignificant association of mode of delivery with age, income status, area of residence and parity was noted. But significant association between education status and mode of delivery was observed.

**Author’s Contribution:**

Concept & Design of Study:  Sadia Zahoor  
Drafting:                                Iffat Yasmin  
Data Analysis:                       Nadia Zaman  
Revisiting Critically:             Iffat Yasmin  
Final Approval of version:          Sadia Zahoor

**Conflict of Interest:** The study has no conflict of interest to declare by any author.

**REFERENCES**

Rheumatic Manifestation in Patients Presenting with Hepatitis C Virus (HCV) in a Tertiary Care Hospital
Aneeqa Ilyas¹, Umair Ashfaq¹, Sarwat Saif² and Tooba Fatima²

ABSTRACT

Objective: To determine the frequency of Rheumatic manifestation in hepatitis C virus (HCV) infected patients”.

Study Design: Cross sectional study

Place and Duration: This study was conducted at OPD & Indoor patients of Medicine Department, Mayo Hospital, Lahore for a duration of 6 months from 28.05.2015 to 28.11.2015.

Material And Methods: With approval from hospital ethical committee, 240 patients of age 20 to 60 years of either gender presenting with confirmed diagnosis of HCV diagnosed at least 6 months ago were included for the study with 95% confidence level, 6% margin of error and expected percentage of rheumatic manifestation 31% in patients. Data was entered in SPSS version 20 and analyzed through it as well. Quantitative variables like duration of HCV and age were calculated as standard deviation and mean. While qualitative variables like rheumatic manifestations such as arthritis or arthralgia, and gender were calculated as percentage and frequency. Stratification of data was done for gender, age of the patients, HCV duration and treatment taken for HCV. Post-stratification, chi-square was applied to compare stratified group. P-value≤0.05 was taken as significant.

Results: The mean age of patients in the study was 40.92±12.20 years. The ratio of female to male patients was 1:2.3. 91.67% of the patients were on treatment for HCV infection and among them rheumatic manifestations were observed in 95(39.6%) of patients. Statistically, there was significant difference between the rheumatic manifestation and patients’ age i.e. p-value=0.030

Conclusion: The study thus concluded that the prevalence of rheumatic manifestation was 39.6%, arthralgia was 15.4% and arthritis was 10% in patients presenting with HCV.

Keywords: Hepatitis C virus, HCV, Clinical Manifestation, Rheumatic, Arthritis

INTRODUCTION

Hepatitis C virus (HCV) has association with autoimmune phenomena. Since HCV infection can be accompanied by or be the cause of a number of autoimmune disorders, it is held that suggested that HCV infection should be considered as one of the possible causes of rheumatological symptoms which remain unexplained in some patients. Comparing to other chronic viral infections, Hepatitis C virus (HCV) infection is associated with various rheumatic manifestations as well as autoimmune investigations, such as autoimmune hepatitis, arthritis, arthralgias, vasculitis, fatigue, fibromyalgia, vasculitis, etc. Arthropathy is a frequent extrahepatic manifestation associated with HCV infection, accounting up to 20% in HCV-infected individuals.

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One study reported that the frequency of arthralgia / arthritis was 35% (out of 49 cases). But another study reported Rheumatic manifestations up to 31% (28 of 90) in subjects infected with HCV, of which arthralgias were 9%, arthritis was 4%. Rationale of this study is to assess the frequency of Rheumatic manifestation in patients presenting with hepatitis C virus (HCV). It has been observed in literature that multiple studies have ambiguous results regarding prevalence of rheumatic manifestation. Not much work has been done on finding the prevalence of rheumatic manifestation in HCV patients. Few studies are available which also contain controversy and there is no local evidence available.

MATERIALS AND METHODS

This cross sectional study was conducted at OPD & Indoor patients of Medicine Department, Mayo Hospital, Lahore.

Inclusion Criteria: Patients of age 20 to 60 years of either gender with confirmed diagnosis of HCV (as per operational definition) diagnosed at least 6 months ago.

Exclusion Criteria: Diabetic patients (BSR>200mg/dl), hypertensive cases (BP≥140/60mmHg).
Patients having rheumatic heart disease (on medical record)
Patients with other comorbid hepatitis like A, B, D, E, Delta or EB virus, etc. (on medical record)
Primary autoimmune diseases like SLE, polymyositis, scleroderma, etc.
Primary vasculitis syndrome: polyarteritis nodosa, microscopic polyangiitis, etc.
Drug induced autoimmune pneumonia (on medical record)

With approval from hospital ethical committee, 240 patients of age 20 to 60 years of either gender presenting with confirmed diagnosis of HCV (HCV RNA >15 IU/mL positive on PCR) diagnosed at least 6 months ago were included for the study with 95% confidence level, 6% margin of error and expected percentage of rheumatic manifestation 31% in patients. Data was entered in SPSS version 20 and analyzed through it as well. Quantitative variables like duration of HCV and age were calculated as standard deviation and mean. While qualitative variables like rheumatic manifestations (3 or more of these in ≥5 joints i.e. joint pain, swollen joints, joint stiffness, redness, warmth, tenderness, and deformity on clinical examination), and gender were calculated as percentage and frequency. Stratification of data was done for gender, age of the patients, HCV duration and treatment taken for HCV. Post-stratification, chi-square was applied to compare stratified group. P-value≤0.05 was taken as significant.

RESULTS
In the study, a total 240 cases were enrolled. The mean age of the patients was 40.92±12.20 years with maximum and minimum ages of 60 & 20 years, respectively. Table#1
The study results showed that the mean duration of HCV of patients was 3.77±2.24 years with maximum and minimum duration of 9 & 1 years, respectively. Table#1
In our study, male patients were 70.42% while female patients were 29.58%. The ratio of female patients to male patients was 1:2.3. Fig#1
In our study, 91.67% of the patients were with treatment while without treatment patients were 8.33%. Fig#2
In the study, 95(39.6%) patients showed the rheumatic manifestation while it was not shown by 145(60.4%) patients. Table#2
In this study, patients with less than 5 years HCV duration patients were 191 in which rheumatic manifestation was found in 71 cases and it was not found in 120 cases, similarly above 5 years HCV duration patients were 49 in which rheumatic manifestation was observed in 24 cases and it was not observed in 25 cases. There was significant difference statistically between the HCV duration and rheumatic manifestation i.e. p-value=0.13 Table#4.

Table No.1: Descriptive statistics of Age (years)& Duration of HCV

<table>
<thead>
<tr>
<th>Age (years)</th>
<th>N</th>
<th>240</th>
<th>HCV duration (years)</th>
<th>N</th>
<th>240</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean</td>
<td>40.92</td>
<td>Mean</td>
<td>3.77</td>
<td></td>
<td></td>
</tr>
<tr>
<td>SD</td>
<td>12.20</td>
<td>SD</td>
<td>2.24</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Minimum</td>
<td>20.00</td>
<td>Minimum</td>
<td>1.00</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Maximum</td>
<td>60.00</td>
<td>Maximum</td>
<td>9.00</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table No.2: Frequency distribution of rheumatic manifestation

<table>
<thead>
<tr>
<th>Rheumatic manifestation</th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>95</td>
<td>39.6%</td>
</tr>
<tr>
<td>No</td>
<td>145</td>
<td>60.4%</td>
</tr>
<tr>
<td>Total</td>
<td>240</td>
<td>100.0%</td>
</tr>
</tbody>
</table>

The study results showed that the patients with treatment were 220 in which rheumatic manifestation was found in 87 cases and it was not found in 133 cases, similarly the patients without treatment were 20 in which rheumatic manifestation was observed in 8 cases and it was not observed in 12 cases. There was
insignificant difference statistically between the treatment of the HCV and rheumatic manifestation i.e., p-value=0.96 Table#4.

Table No.3: Comparison of rheumatic manifestation in different age groups& both genders

<table>
<thead>
<tr>
<th>Age (years)</th>
<th>Rheumatic manifestation</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>Below 35</td>
<td>44</td>
<td>47</td>
</tr>
<tr>
<td>Above 35</td>
<td>51</td>
<td>98</td>
</tr>
<tr>
<td>Total</td>
<td>95</td>
<td>145</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Sex</th>
<th>Rheumatic manifestation</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>Male</td>
<td>69</td>
<td>100</td>
</tr>
<tr>
<td>Female</td>
<td>26</td>
<td>45</td>
</tr>
<tr>
<td>Total</td>
<td>95</td>
<td>145</td>
</tr>
</tbody>
</table>

Different Age Groups: Chi value=4.71&P-value=0.030 (Significant)
Both Genders:Chi value=0.37&P-value=0.54 (Insignificant)

Table No.4: Comparison of rheumatic manifestation according to HCV duration& Treatment

<table>
<thead>
<tr>
<th>HCV duration</th>
<th>Rheumatic manifestation</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>Below 5</td>
<td>71</td>
<td>120</td>
</tr>
<tr>
<td>Above 5</td>
<td>24</td>
<td>25</td>
</tr>
<tr>
<td>Total</td>
<td>95</td>
<td>145</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Rheumatic manifestation</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>Yes</td>
<td>87</td>
<td>133</td>
</tr>
<tr>
<td>No</td>
<td>8</td>
<td>12</td>
</tr>
<tr>
<td>Total</td>
<td>95</td>
<td>145</td>
</tr>
</tbody>
</table>

For HCV Duration: Chi value=2.27&P-value=0.13 (Insignificant)
For Treatment: Chi value=9.96&P-value=0.003 (Significant)

DISCUSSION

Hepatitis C virus infection is an important public health issue all over the globe. Around 170 million people worldwide have been infected with it since it was discovered (1989). In most of the developed countries, it has the prevalence of under 3%, but in Pakistan it ranges between 4-7%. The treatment of HCV-related arthritis is challenging. Arthralgia is a frequent symptom in HCV infection.

In this study the patients with treatment were 91.67%. The rheumatic manifestations were observed in 95(39.6%) patients. Statistically there was significant difference between patients’ age and rheumatic manifestation i.e. p-value=0.030.

A study by SabihaAnis et al showed that the arthritis was in negative HCV patients was 3(30%) patients and in positive HCV patients the arthritis was found in 9(53%) patients. But, insignificant difference was seen statistically between the arthritis of the patients and the study groups, in this study. i.e., p-value=0.177.

A prospective study has shown that 20% of patients infected with HCV suffer from arthralgia during a 1-year follow-up period. RF positivity is approximately 70% to 80% in RA patients, but in HCV-associated arthritis, this positivity is between 54% and 82%.

Lovy MR et reported hepatitis C infection related rheumatic manifestations carry a close impression of rheumatoid arthritis. They concluded that the rheumatic manifestations of Hepatitis C infection can be difficult to distinguish from that of RA.

One study reported that the frequency of arthralgia/arthritis was 35% (out of 49 cases). But another study reported Rheumatic manifestations up to 31% (28 of 90) in subjects infected with HCV, of which arthralgias were 9%, arthritis was 4%.

One study showed that different rheumatologic manifestations, such as sicca syndrome, vasculitis, arthritis and arthralgias, are associated with the HCV infection.

Many studies have reported that rheumatoid arthritis (which is a signature mark for rheumatic diseases) affected patients have high HCV infection prevalence. In one study HCV antibodies were found in 23 (7.6%) of patients with RA, and among these, active infection with HCV was seen in 7 (2.3%) patients. But, contradictory results were also described.

To note, arthritis is less frequently associated with HCV infection as compared to arthralgia, but different studies have reported patients with long standing polyarthritis, who meet American College of Rheumatology (ACR) criteria for RA were affected with HCV infection.

Cacoub et al. reported a 19% prevalence in a large population of patients with HCV infection. Afrequent manifestation of rheumatism in long standing HCV infected patients is arthralgia.

CONCLUSION

Our study results concluded that the prevalence of rheumatic manifestation was 39.6%, in patients presenting with HCV. Now it has been proved that the frequency of rheumatic manifestations is high among HV patients in local population. As well as, we have got local evidence which we will apply in local setting now.

Acknowledgement: We thank our colleague of Mayo Hospital, Dr. Adnan Ahmad Chaudhary who supported us during the course of our study.

Author’s Contribution:
Concept & Design of Study: Aneeqa Ilyas
Drafting: Umair Ashfaq
Data Analysis: Umair Ashfaq
The study has no conflict of interest to declare by any author.

REFERENCES


Prevalence of Appendicitis in Patients with Right Iliac Fossa Pain Presented to General Surgery Department of DHQ Teaching Hospital Bannu KPK, Pakistan

Ajmal Shah Bukhari\textsuperscript{1}, Waqas Ahmad Khan\textsuperscript{1}, Tehmas Ahmad Khan\textsuperscript{1} and Wasim Ahmad\textsuperscript{2}

ABSTRACT

Objective: The objective of the study was to know the number of cases of RIF pain presentation to General Surgery Department and the number of cases of appendicitis out of presented RIF pain Cases.

Study Design: Case series study

Place and Duration of Study: This study was conducted at the Department of General Surgery, Bannu Medical College Bannu from December 2016 to May 2017.

Materials and Methods: Records of patients aged 5-60+ years from surgical unit and Operation theater of DHQ teaching hospital were reviewed.

Results: Total number of cases presented with right iliac fossa pain along with nausea vomiting were 220 containing 57.7\% Males and 42.3\% females. Out of those 194 were diagnosed as Acute appendicitis of which 108(55.6\%) and 86(44.3\%) were male and female cases respectively. Acute appendicitis was mostly seen in teenagers with percentage of 49.9\% collectively. Perforated cases recorded were 30\% and rate of negative appendectomy was 16.6\% overall. During study period not asingle mortality associated with appendicitis was seen.

Conclusion: Acute appendicitis was mostly seen in Teenage Group i.e 11-19 years old. Delay in diagnosis lead to perforated appendicitis leading to emergency and increase in complications. Most of the cases belonged to low socioeconomic class.

Key Words: right iliac fossa pain, acute appendicitis, negative appendectomy.

INTRODUCTION

In any hospital setting functional emergency department is necessary and a backbone to provided initial management to patients who require acute management. Right Iliac fossa pain is chief complaint among many chief complaints presented to Emergency Departments in various Hospitals.\textsuperscript{1} Among many differentials of Right Iliac Fossa Pain, Acute Appendicitis is the major one and requires prompt management.

Appendix, a small tube, about 4 inches long, is often present at the junction of the small intestine and cecum (Larger intestine).\textsuperscript{1} Till date the exact function of appendix is a big mystery.

Often theoraticized are the beliefs that it may be a storehouse for good bacteria that may act as storehouse for spores that may replenish the intestinal normal flora. Others consider that appendix may be a useless leftover from evolutionary process. Often, the surgical removal of the appendix causes no health problems.\textsuperscript{1}

Acute Appendicitis is the inflammation of appendix. For unclear reasons, the appendix often becomes inflamed and infected.\textsuperscript{1} Inflammation leads to severe pain in the right lower part of the belly along with nausea and vomiting. Acute Appendicitis is a surgical emergency that almost always requires prompt surgery to remove the appendix. Left untreated, an inflamed appendix will finally rupture, or perforate, leaking infective materials into the abdominal cavity. This can lead to peritonitis, defined as inflammation of the abdominal cavity's lining (the peritoneum) that can be fatal unless it is treated quickly with strong antibiotics.\textsuperscript{1}

The definitive symptoms of appendicitis include:

1) Dull pain near the navel or the upper abdomen that becomes sharp as it moves to the lower right abdomen. This is usually the first sign.

2) Loss of appetite

3) Nausea and/or vomiting soon after abdominal pain begins
**Abdominal swelling.**

**Fever of 99-102 degrees Fahrenheit**

**Inability to pass gas**

Almost half the time, other symptoms of appendicitis appear, including:

1. Dull or sharp pain anywhere in the upper or lower abdomen, back, or rectum
2. Painful urination and difficulty passing urine
3. Vomiting that precedes the abdominal pain
4. Severe cramps
5. Constipation or diarrhea with gas

The incidence of appendicitis is due to regional and racial difference. In the United States, there has been an increase in the number of cases from 7.6% to 9.3% with a peak in teenagers. Epidemiological data is very scarce in Pakistan as most studies have been on Western populations. Factors like eating habits and hygiene conditions have been suggested but are not widely accepted.

Obstruction is the most common cause of appendicitis with fecolith or lymphoid aggregation being the usual causes. Gut organism invade appendix after luminal obstruction by lymphoid hyperplasia or fecolith leading to appendicitis.

The objective of the study was to evaluate:

1. Number of cases presenting with Right Iliac Fossa Pain to DHQ Hospital Bannu.
2. Prevalence of Acute appendicitis among the presented cases of Right iliac fossa pain.

Complications developed after patients underwent appendectomy.

**MATERIALS AND METHODS**

It was a case series study design which was conducted from Dec, 2016 to May 2017. During these days, following work has been done: data collection, analysis, and making interpretations about the result and to provide recommendations based on this study findings.

**Sample Technique:** Convenience sampling technique

**Sample Size:** Patients who were admitted in General Surgery ward of DHQ Hospital, Bannu during the period of Dec 2017 to May 2017.

**Data Collection:** Data records of the Patients was taken from the record room of DHQ Hospital Bannu for the aforementioned period and analysis was carried out by the researchers.

**Inclusion/Exclusion Criteria:** Patients with complaint of Pain in Right Iliac Fossa of Abdomen, nausea, vomiting, aged 5 to 60+, who were admitted in General Surgery Department of DHQ Hospital Bannu were included in our study and other admissions during the study period with other complaints were excluded.

**Data Entry/Analysis:** Data analysis was done using SPSS 20.0 and for the graphical presentation MS Excel version 2013 was used.

**Scale used for diagnosis of Appendicitis:** The Alvarado Scoring scale was used for diagnosis of acute appendicitis.

**RESULTS**

**Table No.1: Alvarado Scoring scale**

<table>
<thead>
<tr>
<th>Characteristics</th>
<th>Points Given</th>
</tr>
</thead>
<tbody>
<tr>
<td>Migration of Pain to Right Iliac Fossa</td>
<td>1</td>
</tr>
<tr>
<td>Anorexia</td>
<td>1</td>
</tr>
<tr>
<td>Nausea and Vomiting</td>
<td>1</td>
</tr>
<tr>
<td>Tenderness in Right Iliac Fossa</td>
<td>2</td>
</tr>
<tr>
<td>Rebound Tenderness</td>
<td>1</td>
</tr>
<tr>
<td>Elevated Temperature</td>
<td>1</td>
</tr>
<tr>
<td>Leukocytosis</td>
<td>2</td>
</tr>
<tr>
<td>Shift of White Blood Cell Count to Left</td>
<td>1</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>10</strong></td>
</tr>
</tbody>
</table>

**Table No.2: Diagnostic Criteria**

<table>
<thead>
<tr>
<th>Total Score based on Alvarado scoring system</th>
<th>Diagnosis</th>
</tr>
</thead>
<tbody>
<tr>
<td>Score &lt;5</td>
<td>Appendicitis Unlikely</td>
</tr>
<tr>
<td>Score 5-6</td>
<td>Appendicitis Possible</td>
</tr>
<tr>
<td>Score 7-8</td>
<td>Appendicitis Likely</td>
</tr>
<tr>
<td>Score 9-10</td>
<td>Appendicitis Highly Likely</td>
</tr>
</tbody>
</table>

A total of 220 patients were presented to DHQ Hospital, Bannu with right iliac fossa pain and other symptoms mimicking acute appendicitis in time period ranging from Dec 2016 to May 2017. Out of 220 patients, 194 were diagnosed to be having acute appendicitis. Out of those 108 patients were male and 86 females comprising 55.67% and 44.32% respectively.

**Graph No.1: Percentage ratio of Male and Females diagnoses with Acute Appendicitis**

As the graph shows that total number of cases with right iliac fossa pain were 220 out of which 194 had inflamed appendix containing 108 male patients and 94 female patients.

Out of the included patients the age range was from 5 years old to more than 60 year old, the most patients belonged to the age group of 5 to 20 year group with almost 50% patients(n=96, 49.48%) followed by 21 to 30 years age group(n=54, 27.83%). The rate was lowest...
in >50years age group and is (n=16, 8.22%) collectively.

For both female and male groups appendicitis is most prevalent in the 11 to 20 years age group with rates of (n=50, 46.29% and (n=46, 53.48%) respectively and least prevalent in age > 50 years. Appendicitis was more common in males (n=108, 55.67%) than females (n=86, 44.32%) and ratio among above is 1.255. During our Study, We found that 29.89% cases were perforated appendicitis citing males (n=32, 29.6%) and females (n=30, 28%).while 32.989% cases got Post-OP wound infection with ratio of 33% males and 28% females.

Table No.3: Ratio of Male and Female Patients diagnosed with acute appendicitis in DHQ Hospital Bannu.

<table>
<thead>
<tr>
<th>Age Group</th>
<th>Male Cases</th>
<th>Female Cases</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>5-20</td>
<td>50(46.29%)</td>
<td>46(53.48%)</td>
<td>96(49.48%)</td>
</tr>
<tr>
<td>21-30</td>
<td>38(35.18%)</td>
<td>16(18.6%)</td>
<td>54(27.83%)</td>
</tr>
<tr>
<td>31-40</td>
<td>4(3.7%)</td>
<td>10(11.62%)</td>
<td>14(7.21%)</td>
</tr>
<tr>
<td>41-50</td>
<td>10(9.2%)</td>
<td>4(4.65%)</td>
<td>14(7.21%)</td>
</tr>
<tr>
<td>51-60+</td>
<td>6(5.55%)</td>
<td>10(11.6%)</td>
<td>16(8.24%)</td>
</tr>
<tr>
<td>total</td>
<td>108(55.67%)</td>
<td>86(44.32%)</td>
<td>194(100%)</td>
</tr>
</tbody>
</table>

Graph No.2: Patient cases with post op wound infection or Perforation

Negative appendectomy, i.e patient with no inflamed appendix, were 34 cases about 17.25%, out of which male patients were 18 (16.6%) and female patients were 16 (18.6%). Among all cases (220), 26 cases (11.81%) were having symptoms mimicking appendicitis but were other pathogens found during Surgery. Other pathologies in male were(n=18, 14.2%) mostly seen in early age group, and female cases were (n=8, 8.51%).

The socioeconomic status of our patients in study was of Average to Poor in 70-80% of cases. High wbc count was seen in 70% of cases of male and 69.767% in female as noted from our record books.

And positive ultrasound finding were 12% in male and 9.3% in female cases respectively from available data.

Graph No.3: Investigative Finding in Patients

DISCUSSION

In our study there were total 220 cases with Right Iliac Fossa pain out of which 194 were diagnosed to be Acute Appendicitis. 108 male cases and 86 female case accounting for 55.6% and 44.3% respectively, which shows ratio of 1.12 indicating male preponderance also quoted in other studies. In our study, Appendicitis was mostly seen in patients with age group of 5-20 years with study giving results of 49%, (n=50, 46.29%) and (n=46, 53.48%) in males and females respectively. Studies from different part of world support these observations. Aslam MN et al observed similar results in Lahore Pakistan while Noudeh YJ et also showed highest appendicitis incidence in males aged 20-29 and female aged 10-19 years in their study conducted in Tehran. Sulu B et al from turkey and I-omranet al from Canada also support these figures. In our study, rate of perforated appendix at time of presentation was 30% which may be due to delayed presentation at hospital level. Results were not much different from a similar study conducted by Omar sallaudinin, POF hospital wah cantt; Pakistan that revealed 33.3% perforated cases in their study. In our study, 32.94% cases had suffered from post operated wound infection where mostly seen in patients having perforated appendix, this high rate of wound infection was due to perforation and long stay of patients in hospital.

Negative appendectomy was 17.6% of the total cases, containing 16.6% male of all male cases and 18.6% females of all female cases that had undergone appendectomy. Our result was much lower from a similar study by Okobia et al. in Benin City, Nigeria who reported an incidence of 32.2% with representation of both males and females18. Similarly, Ogbonna et al. reported a negative appendectomy rate of 29.7% in males and 47% in females over a five year period in nigeria. Kakande and colleagues in Uganda reported a negative appendectomy rate of 29.5% . Gilmore in England reported a negative appendectomy rate of 22.5%. In contrast with all these studies our study showed better results which is due to good clinical assessment better diagnostic sense.
70% of cases showed leukocytosis and only 10% showed positive ultrasound finding. Ultrasound is mostly used to exclude other pathologies otherwise the results don’t show any convincing figure regarding ultrasound in appendicitis. A white cell count greater than 10,000/pL was observed in 82% cases of appendicitis by Sudha Elangovan. A study by Lau and colleagues showed 42% increase in WBC count.

Other pathologies mostly seen in patients were mesenteric lymphedinitis and ascaries in teenagers. In females ovarian endometriosis was seen after negative appendectomy. Few cases of intestinal tb was seen particularly ilio-cecal.

CONCLUSION

Quite a large number of Patients with acute abdomen have been diagnosed with Acute appendicitis. Our findings of the study are as under:
1) Appendicitis was most commonly seen in teenager i.e patients of age 11-20.
2) Delay in diagnosis lead to perforated appendicitis leading to emergency and increase in mortality
3) Majority of patients with acute appendicitis were of poor to average socioeconomic status
4) Mortality rate during our study was none indicating better and prompt diagnosis and treatment.

Recommendations: On basis of our study we recommend the following:
1) Awareness regarding abdominal pain appendicitis may be provided to community to prevent complications due to acute appendicitis.
2) Prompt provision of necessary investigations and ease of access to health centers may lead to better treatment of Acute Appendicitis.
3) People with poor socioeconomic status visit hospital on prompt to prevent complications.
4) And Specialist/Consultant Surgeon opinion may be taken on the suspected Appendicitis cases that are presenting to emergency department.
5) Alvarado Scoring Charts may be displayed in Emergency department leading to Prompt diagnosis of Acute appendicitis and prevention of complications

Author's Contribution:
Concept & Design of Study: Ajmal Shah Bukhari
Drafting: Waqas Ahmad Khan
Data Analysis: Waqas Ahmad Khan
Revisiting Critically: Tehmas Ahmad Khan, Wasim Ahmad
Final Approval of version: Ajmal Shah Bukhari

Conflict of Interest: The study has no conflict of interest to declare by any author.

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Association Between Hyperhomocysteinaemia and Cardiovascular Diseases In Type-II Diabetes
Muhammad Ali Shakir¹, Syed Inayat Ali³ and Farhat Jafri²

ABSTRACT

Objective: To study the relationship between cardiovascular diseases and increased level of homocysteine in Type II diabetes. Our study was aimed to find out the Hyperhomocystenemia as a marker for early prediction of Cardiovascular (CVD) diseases in patients suffering from Type II diabetes mellitus.

Study Design: Prospective study.

Place and Duration of Study: This study was conducted at Baqai Institute of Diabetology & Endocrinology (BIDE) and Agha Khan University (AKU), Karachi, Pakistan from July 2016 to Oct. 2016.

Materials and Methods: The study included a total of eighty (80) Type II diabetes (40 Males and 40 Females) and forty (40) healthy subjects were selected as Control. All biophysical parameters and biochemical tests were done using standard procedures.

Results: Body weight, body mass index (BMI) and waist circumference were found to be significantly (p<0.01) increased when compared with control values. The triglyceride, total homocysteine and fasting plasma glucose (FPG) were markedly high in diabetes as compared to control. The Vitamin B12 and Folic acid levels were significantly (p<0.05) decreased in diabetes as compared to control values.

Conclusion: The outcome of this study reveals that high homocysteine level, high triglyceride level and decreased Vitamin B12 and Folic acid levels can be categorized as strong risk factor for early cardiovascular diseases.

Key Words: Homocystein, glucose, Type-II diabetes, triglycerides, vitamin B12, cardiovascular disease.

INTRODUCTION

Diabetes Mellitus (DM) is a disease of long term duration due to deficiency of insulin or its function. Common complications which usually occur due to increase blood glucose level are microvascular and macrovascular complication of cardiovascular diseases, diabetic nephropathy, diabetic neuropathy, and diabetic retinopathy².³. It has been observed that even mild impairment of glucose tolerance causes atherosclerosis⁴. In diabetic patient homocysteine level is usually found to be high⁵, and this elevated homocysteine level is considered as strong risk factor for cardiovascular events⁶,⁷. The aim or target of our study was to find out the relationship between Homocysteine, Vitamin B12 and Folic acid levels for predicting as risk factor for early cardiovascular diseases or whether there is any link between hyperhomocysteinemia and cardiovascular diseases in Type II diabetes.

MATERIALS AND METHODS

We randomly selected eighty (80) patients (40 Males and 40 Females) Type II diabetes for this Prospective study. The patients were given a set of questionnaire to obtain information on demographic characteristics. We included strictly obese Type II diabetes with age >40 years. Exclusion criteria included those patients suffering from liver, kidney, cerebrovascular diseases and patient suffering from Type I diabetes mellitus were excluded. Forty (40) volunteers consists of twenty (20) males and twenty (20) females, age ranges between 40-70years were randomly selected and included as Control.

The study was approved by Ethic Review Committee of Baqai Medical University.

Blood samples were collected and centrifuged. Plasma total cholesterol, triglyceride, high density lipoprotein cholesterol (HDLC) were estimated enzymatically. Plasma low density lipoprotein cholesterol (LDLC) was also calculated. Plasma glucose levels were determined by autochemical analyzer. HPLC was used for estimation of plasma Vitamin B12 and Folic acid.

Statistical Analysis: Statistical analysis was performed using SPSS (version 19) for all results. Biochemical parameters were calculated as mean ± SD. Student t-
test was performed to determine difference between means. In all statistical analyses performed, p-value <0.05 were considered statistically significant (S), while p>0.05 statistically insignificant. P value <0.01 was considered highly significant (HS).

RESULTS

Eighty (80) subjects were included in our study. The mean age of the study participants was 54±11.52 years. When compared to control significant increase in body weight and body mass index (BMI) (p<0.001) were found. There was also significant increase in waist circumference (WC) (p<0.012) in Ty II diabetes subjects. There was also significant increase in waist circumference (WC) (p<0.001) were significantly decreased in the Diabetes mellitus group as compared to control values (Table 1).

Table No. 1: Characteristics of cases and control

<table>
<thead>
<tr>
<th>Characteristics</th>
<th>Diabetics (n=80)</th>
<th>Control (n=40)</th>
<th>p-Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Body Weight (kg)</td>
<td>69±10.4</td>
<td>59±8.3</td>
<td>&lt;0.01</td>
</tr>
<tr>
<td>Height (m)</td>
<td>1.18±5.0</td>
<td>1.49±3.9</td>
<td>&lt;0.02</td>
</tr>
<tr>
<td>BMI (kg/m²)</td>
<td>29±3.6</td>
<td>22±2.9</td>
<td>&lt;0.01</td>
</tr>
<tr>
<td>WC (cm)</td>
<td>80.2±7.5</td>
<td>71.5±3.5</td>
<td>&lt;0.05</td>
</tr>
</tbody>
</table>

BMI= Body Mass Index; Kg= kilogram; m= metre; Kg/m²=kilogram/ metre²; WC= waist circumference; Cm= centimetre

Table No. 2: Biochemical Parameters of the Subjects

<table>
<thead>
<tr>
<th>Parameters</th>
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<th>Control Subjects</th>
<th>p-Value</th>
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</thead>
<tbody>
<tr>
<td>n=80</td>
<td>n=40</td>
<td></td>
<td></td>
</tr>
<tr>
<td>FPG (mmol/L)</td>
<td>6.98±3.9</td>
<td>3.98±0.9</td>
<td>&lt;0.01</td>
</tr>
<tr>
<td>tHcy (µg/L)</td>
<td>9.92±2.4</td>
<td>7.01±1.6</td>
<td>&lt;0.02</td>
</tr>
<tr>
<td>TC (mmol/L)</td>
<td>4.58±1.19</td>
<td>4.11±1.68</td>
<td>&lt;0.05</td>
</tr>
<tr>
<td>TG (mmol/L)</td>
<td>1.70±0.5</td>
<td>2.27±0.2</td>
<td>&lt;0.03</td>
</tr>
<tr>
<td>HDL (mmol/L)</td>
<td>0.96±0.2</td>
<td>0.60±0.2</td>
<td>&lt;0.05</td>
</tr>
<tr>
<td>LDL (mmol/L)</td>
<td>3.10±1.06</td>
<td>3.00±0.01</td>
<td>&lt;0.05</td>
</tr>
<tr>
<td>HDLC/TC</td>
<td>0.36±0.4</td>
<td>0.30±0.1</td>
<td>&lt;0.05</td>
</tr>
<tr>
<td>LDL/TC</td>
<td>0.45±0.7</td>
<td>0.54±1.09</td>
<td>&lt;0.05</td>
</tr>
<tr>
<td>Folic acid (µg/L)</td>
<td>51.50±1.01</td>
<td>50.72±1.01</td>
<td>&lt;0.05</td>
</tr>
<tr>
<td>Vitamin B12 (µg/L)</td>
<td>45.62±1.11</td>
<td>47.09±0.84</td>
<td>&lt;0.05</td>
</tr>
</tbody>
</table>

FPG = Fasting Plasma Glucose; tHcy=Total Homocysteine; TC= Total Cholesterol; TG= Triglyceride; HDLC= High Density Lipoprotein Cholesterol; LDL= Low density Lipoprotein Cholesterol; µmol/L= micromol per litre; µg/L= microgram per litre

Table No. 3 : Biochemical Parameters in Diabetic Patients With Gender

<table>
<thead>
<tr>
<th>Parameters</th>
<th>Diabetics (n=40)</th>
<th>Control (n=40)</th>
<th>p-Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>FPG (mmol/L)</td>
<td>7.98±3.6</td>
<td>6.9±2.3</td>
<td>&gt;0.05</td>
</tr>
<tr>
<td>tHcy (µg/L)</td>
<td>12.01±1.6</td>
<td>8.9±1.2</td>
<td>&lt;0.01</td>
</tr>
<tr>
<td>TC (mmol/L)</td>
<td>5.48±0.07</td>
<td>5.98±0.2</td>
<td>&lt;0.05</td>
</tr>
<tr>
<td>TG (mmol/L)</td>
<td>2.08±0.9</td>
<td>2.98±0.1</td>
<td>&lt;0.02</td>
</tr>
<tr>
<td>HDL (mmol/L)</td>
<td>3.01±0.12</td>
<td>2.98±0.1</td>
<td>&gt;0.05</td>
</tr>
<tr>
<td>LDL (mmol/L)</td>
<td>3.47±0.16</td>
<td>3.94±0.2</td>
<td>&lt;0.05</td>
</tr>
<tr>
<td>BMI (kg/m²)</td>
<td>29.01±0.84</td>
<td>29.01±0.4</td>
<td>&lt;0.05</td>
</tr>
<tr>
<td>HDLC/TC</td>
<td>0.36±0.4</td>
<td>0.21±0.07</td>
<td>&lt;0.05</td>
</tr>
<tr>
<td>LDL/TC</td>
<td>0.45±0.7</td>
<td>0.50±0.11</td>
<td>&lt;0.05</td>
</tr>
<tr>
<td>Folic acid (µg/L)</td>
<td>51.50±1.01</td>
<td>50.72±1.01</td>
<td>&lt;0.05</td>
</tr>
<tr>
<td>Vitamin B12 (µg/L)</td>
<td>45.62±1.11</td>
<td>47.09±0.84</td>
<td>&lt;0.05</td>
</tr>
</tbody>
</table>

DISCUSSION

Most common cause of mortality in long term diabetes is cardiovascular disease. The participant patients in this study was determined for plasma homocysteine, folic acid, lipids, Vitamin B12 and lipoproteins levels. In this study we included mainly obese diabetic patients. Literature reviewed elaborated that both, atherogenic and thrombogenic effects are associated with high level of plasma homocysteine as well as hyperhomocystenemia causes endothelial dysfunction, decreases the release of nitric oxide and causes impaired vasodilatation. Our study also showed and support the hypothesis that impaired metabolism of homocysteine contributes to development of cardiovascular diseases.

CONCLUSION

From our study we have come to the conclusion that increased total homocysteine, triglyceride level and
decreased Vitamin B12 and Folic acid levels along with increased waist circumference are strong risk factor for development of cardiovascular diseases in Type II diabetes mellitus subjects.

Acknowledgements: The researchers wish to thank the Medical staff of Baqai Institute of Diabetology & Endocrinology unit of Baqai Medical University for their help in the recruitment of the subjects.

Author’s Contribution:
Concept & Design of Study: Muhammad Ali Shakir
Drafting: Syed Inayat Ali, Farhat Jafri
Data Analysis: Syed Inayat Ali, Farhat Jafri
Revisiting Critically: Muhammad Ali Shakir
Final Approval of version: Muhammad Ali Shakir

Conflict of Interest: The study has no conflict of interest to declare by any author.

REFERENCES
Effect of Time Management Skills on Academic Performance of Medical Students
Shaur Sarfaraz¹, Muhammad Kashif Nisar² and Erum Afaq³

ABSTRACT

Objective: To assess time management skills with respect to effect on academic performance of medical students.

Study Design: Descriptive / cross-sectional study

Place and Duration of Study: This study was at the Department of Medical Education, Dow University of Health Sciences, Karachi from 1st January 2015 to 31st December 2015.

Materials and Methods: The sample of the study consists of 652 medical college students. Academic performance has been checked by student affairs and examination department of college.

Results: The relationship between medical students’ time management scores and academic performance ratings is measured. A positive and significant relationship was discovered between time management score and performance rating (r= 0.584, p= <0.001). Correlation is significant at the 0.01 level (2-tailed). Male students have better time management scores.

Conclusion: This research work underlines the crucial need of understanding the part of “time management in academic performance.

Key Words: Time management skills, Academic performance, Medical students.

INTRODUCTION

A time management skill is not just skill to know or to learn, it is a pathway.¹ Time management “is a set of principles, practices, skills, tools, and systems that work together to help you get more value out of your time with the aim of improving the quality of your life.”² Awareness of time management skills is crucial for every student in their college/university life to organize, plan, concentrate and study effectively for quality output. This will give an efficient control on the work and health status and task related stress can also be managed in a better way.³ Ezeala and Siyanga⁴ reported a huge proportion of undergraduate students of health sciences have unawareness about the understanding of study skills and time management habits.

Medical students in the study period are entailed to understand and make concepts of a huge range of medical and scientific subjects. It is clear that unprofessional and improper way of studying integrated subjects will lead them to have failure in getting good grades that results in demotivation, loss of passion to learn.⁵

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Received: May 05, 2017; Accepted: June 10, 2017

MATERIALS AND METHODS

This is a cross-sectional study in which descriptive survey was carried out at Dow University of Health Sciences, Karachi from 1st January 2015 to 31st December 2015. The sample of the study consists of 652 medical college students. Student's cumulative grade point average (GPA) is a grading criteria of
measuring performance related to academics, was secured by an open ended question asking to write the most recent cGPA Scale ranging from 1-4 that they have obtained in their last university exam. The self-reported cGPA was later validated by the student affairs department and examination branch (Departments that have information regarding results and evaluation of each student). The questionnaire used in this study was acquired and modified questionnaire developed by Britton and Tesser1991 and John W. Olmstead MBA, Ph.D.2005 regarding time management skills. These two Questionnaires had taken in consideration and modified according to our study design and has been checked by Cronbach’s alpha for the reliability. A self-administered also called drop-off and pick procedure was employed to distribute the questionnaire and gathered information from the respondents who are students from medical colleges of Karachi. The study consists of 652 medical students. The data is then gathered and transferred into SPSS 21 (Statistical Packet for Social Sciences) program. The descriptive statistics such as frequency (f), percentage (%), arithmetical mean (\(\bar{x}\)), range, standard deviation (S), Pearson correlation coefficient (r) and one sample T-test analysis (t) were used in the data analysis.

RESULTS

Out of 652 medical students (471) 72.2% were females and (181) 27.8% were males students (Table 1). Mean age of the students was 19.43±1.352 with the range of 18-23 years. Figure 1 represents the ages of the sample students that were 18 year old students 235 (35.9%), 19 year old students were 115 (17.6%), 20 year old students that are 156 (23.9%), 21 year old students were 89 (13.7%), 22 year old students were 52 (8%) and 23 year old student is were only 6 (0.9%). That explains that the majority of the students were of 18 years and 20 years. Table 2 shows the time management scores and c GPA along with mean age of medical students. Mean of time management scores of medical students was (2.41±.0.545) which describes that medical students have good time management skills as time management scores are coded as 1-4 that is ranging from low(1-1.9), moderate(2-2.9) and (high 3-4). Furthermore the relationship of the time management scores is more evident by the cumulative grade point average cGPA (1- 4) that is plotted on a conventional scale ranging from average (1-1.9), good (2-2.9), excellent(3-4). The mean of cGPA of medical students was (2.55±.0.446) which proves that better time management skills can lead to good cGPA. 

There is (471) 72.2% female students and (181) 27.8% male students enrolled. In this study, Male students seem to have slightly better time management skills than the female students as mean of time management score is 2.56±0.519 as compared with the mean of time management scores of female students that is 2.35±0.54 with statistically highly significant P value of <0.001. This is more evident by the cGPA calculated , as male students have mean of 2.65±0.371 which was higher than the mean of female students 2.51±.0.466 with statistically highly significant P value of <0.001. (Table 3)
DISCUSSION

Many factors such as student’s motivation, stress, and socioeconomic status influence the student’s academic performance. One of the most important determinants of student’s academic profile is time management skill which has a positive effect on their academic achievement. Studies on this issue reports that students utilizing their time effectively have been shown to have high academic achievement. Androniceanu et al. reported a positive relationship between students’ time management skills and academic achievement and the same is also reported in several other studies. Findings of our study are also consistent with these studies. We also concluded that the students having good time management scores (2.41±0.545) have an excellent cumulative GPA rating (2.55±0.446). According to Karakose et al female students were found to be more successful than male students. In one more study conducted by Trueman and Hartley, on university students female students were found considerably better than male students in time management skills. On contrast to this we found exactly opposite results of these studies that is in our research male students have good time management scores (2.56±0.519) than female students (2.35±0.541) and these good time management skills are reflected in their academic performance in terms of c GPA rating which is (2.65±0.371) for males and (2.51±0.466) for females and these findings are highly significant at the p value of <0.001. To the best of our knowledge these finding are being reported for the first time and we consider these results unique in comparison to previous studies. As a result of the present research, a significant positive correlation of time management scores with the GPA was established between time management score and academic performance rating (r = 0.584, p=0.000) correlation is significant at the level of 0.01.

CONCLUSION

Medical students who were good in time management and time planning scored high on likert scale of time management questionnaire and their high scores are reflected in their academic performance as they obtained excellent rating of their GPA.

Author’s Contribution:
Concept & Design of Study: Shaur Sarfaraz
Drafting: Muhammad Kashif Nisar
Data Analysis: Muhammad Kashif Nisar
Revisiting Critically: Erum Afaq
Final Approval of version: Shaur Sarfaraz

Conflict of Interest: The study has no conflict of interest to declare by any author.

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Early Outcome of Hypoxic Ischemic Encephalopathy in Neonates Born at Nazeer Hussain Medical Complex Hyderabad

Deve Dass¹, Muhammad Nadeem Chohan¹ and Jai Parkas²

ABSTRACT

Objective: To assess the early outcome of Hypoxic Ischemic Encephalopathy in neonates born at Nazeer Hussain Medical Complex Hyderabad

Study Design: Descriptive / cross sectional study

Place and Duration of Study: This study was conducted at the Neonatal Ward of Nazeer Hussain Medical Complex, Hyderabad from January to December 2016.

Materials and Methods: This study was conducted to know the early outcome of birth asphyxia in neonates born at this hospital. Inclusion criteria of our study were all newborn (term, preterm or post-term) with history of perinatal asphyxia or APGAR score at 5 minutes, < 7, or delayed crying after birth or > 10 minutes resuscitation soon after birth. Neonates having lethal anomalies like hydrops fetalis, cyanotic heart defects, and congenital malformations were excluded from study. Severity of Asphyxia was assessed by the grading of Hypoxic Ischemic Encephalopathy. APGAR score 5-7 was labeled as mild asphyxia, 3-5 as moderate asphyxia and <3 as severe asphyxia.

Results. In this study mostly male neonates were there 92.2% (Table 1). Most common of admission was ≤ 2 days 51.2% (Table 1). Most of the neonates were ≥ 37 weeks gestational age 48.8% (Table 1). Grade 1 Hypoxic Ischemic Encephalopathy was most common 41.5% (Table 2). Most of the mothers had age between 25 to 35 years 90.2% (Table 2). Most mothers had the history of multigravida 53.7% (Table 2). Most common fetal presentation was cephalic 80.5% (Table 2). 56.1% neonates born by C-section (Table 2). Only 7.3% mothers had history of prolonged labor (Table 2). 33% neonates died due to Hypoxic Ischemic Encephalopathy (Table 3).

Conclusion: In this study most common type was grade 2 Hypoxic Ischemic Encephalopathy 37.1%. Grade 3 HIE was least common but death rate was more in it 21.9%. Death was least common in grade 1 HIE 4.26%.

Key Words: Birth Asphyxia, Hypoxic Ischemic Encephalopathy, APGAR Score

INTRODUCTION

Birth asphyxia may cause death or Hypoxic Ischemic Encephalopathy when there is a failure to newborn, during intraterine life, during birth process or soon after birth. It is due to failure to initiate or inadequate breathing, leading to decreased oxygenation to various organs². Hypoxic Ischemic Encephalopathy occurs when there is hypoxemia (lack of oxygen) and hypercapnia (accumulation of carbon dioxide), combination of this decrease in oxygen supply (hypoxia) and blood supply (ischemia) results in neuronal cell death and brain damage ².

Birth asphyxia is defined as, Umbilical cord arterial pH<7 or Apgar score of 0 to 3 for longer than 5 minutes after birth or Neurological manifestations like seizures, coma, or hypotonia after birth or Multisystem organ dysfunction like cardiovascular, gastrointestinal, hematological, pulmonary, or renal system after birth (American Academy of Pediatrics) ³.

Of the estimated 130 million infants born each year worldwide¹, 4 million die in the first 28 days of life. Neonatal deaths account for 40% of deaths under the age of 5 years worldwide. Two-thirds of the world’s neonatal deaths occur in just 10 countries, mostly in Asia. Pakistan is number three among these countries. With an estimated 298,000 neonatal deaths annually and a reported neonatal mortality rate of 49 per 1000 live births, Pakistan accounts for 7% of global neonatal deaths⁴. Infection (36%), preterm birth (28%) and birth asphyxia (23%) account for 87% of neonatal deaths worldwide⁵. Acute neurologic injury due to birth asphyxia is less common in developed countries (2 to 3 cases per 1000 term live births) while it is higher in developing countries².

MATERIALS AND METHODS

A descriptive cross sectional study was conducted from January to December 2016 at the Neonatal Ward of Nazeer Hussain Medical Complex, Hyderabad from January to December 2016.
Nazeer Hussain Medical Complex to know the early outcome of birth asphyxia in neonates born at this hospital. The Obstetric unit of this hospital receives pregnant women from city and beyond. Neonates are resuscitated by nursing staff, trained in neonatal resuscitation. In case of high risk deliveries, consultant Pediatrics receives and resuscitates the newborn. Inclusion criteria of our study were all newborn (term, preterm or post-term) with history of perinatal asphyxia or APGAR score at 5 minutes, < 7, or delayed crying after birth or > 10 minutes resuscitation soon after birth. Neonates having lethal anomalies like hydrops fetalis, cyanotic heart defects and congenital malformations were excluded from study. Severity of Asphyxia was assessed by the grading of Hypoxic Ischemic Encephalopathy. APGAR score 5-7 was labeled as mild asphyxia, 3-5 as moderate asphyxia and <3 as severe Asphyxia. For the Nazeer Hussain Medical Complex born babies we have a nursery and Neonatal Intensive Care Unit. All delivered babies were received by senior nursing staff trained in the neonatal resuscitation. Resuscitation was given to neonates who failed to develop spontaneous breathing. Soon after delivery stop watch switched on to note the duration of resuscitation until the infant had good respiratory efforts along with a heart rate >100 beats. If there was no spontaneous breathing 20 minutes after birth then no more efforts taken and resuscitation stopped (American Heart Association). At 5 minutes after birth if babies had APGAR score >7 then they were transferred to neonatal postnatal ward for observation for 12 hours and then discharged. Newborns whose Apgar score remained < 7 at 5 minutes after birth were transferred to neonatal ward for further management. Admitted babies were examined by doctors at 6, 24 and 48 hours of age. Babies’ length, weight and FOc were taken and temperature was recorded. The presence of pallor and cyanosis was also noted. Respiratory rate counted in one minutes and examination done for subcostal recessions. Babies who were irritable hyperalert, mild hypotonic, and feeding poorly were graded as HIE grade 1 (mild); neonates who were lethargic, had seizures, marked abnormalities of tone, and had requirement of tube feeding were graded as HIE grade 11 (moderate) and neonates who were in coma, had prolonged seizures, severe hypotonic, failed to maintain spontaneous respiration were classified as HIE grade 111 (severe) (Sarnat 8). At 72 hours of admission early outcome was recorded and was measured as clinical improvement or presence of Hypoxic Ischemic Encephalopathy or death. Data was analyzed by using SPSS version 22. Frequency of birth asphyxia was measured as percentage.

RESULTS

In this study mostly male neonates were there (Table 1). Most common of admission was ≤ 2 days (51.2% (Table 1). Most of the neonates were ≥ 37 weeks gestational age 48.8% (Table 1). Grade 1 Hypoxic Ischemic Encephalopathy was most common 41.5% (Table 2). Most of the mothers had age between 25 to 35 years 90.2% (Table 2). Most mothers had the history of multigravida 53.7% (Table 2). Most common fetal presentation was cephalic 80.5% (Table 2). 56.1% neonates born by C-section (Table 2). Only 7.3% mothers had history of prolonged labor (Table 2). 33% neonates died due to Hypoxic Ischemic Encephalopathy (Table 3).

<table>
<thead>
<tr>
<th>Characteristics</th>
<th>No of Patients</th>
<th>%</th>
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<tr>
<td>Gender</td>
<td></td>
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<tr>
<td>Male</td>
<td>148</td>
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</tr>
<tr>
<td>Female</td>
<td>16</td>
<td>9.8%</td>
</tr>
<tr>
<td>Age</td>
<td></td>
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</tr>
<tr>
<td>≤ 2 days</td>
<td>84</td>
<td>51.2%</td>
</tr>
<tr>
<td>3-5 days</td>
<td>72</td>
<td>43.9%</td>
</tr>
<tr>
<td>&gt; 5 days</td>
<td>8</td>
<td>4.9%</td>
</tr>
<tr>
<td>Gestational Age</td>
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</tr>
<tr>
<td>≥ 37 weeks</td>
<td>80</td>
<td>48.8%</td>
</tr>
<tr>
<td>34-36 weeks</td>
<td>44</td>
<td>26.8%</td>
</tr>
<tr>
<td>&lt;34 weeks</td>
<td>40</td>
<td>24.4%</td>
</tr>
</tbody>
</table>

Table No.2: HIE Staging and Risk factors

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</tr>
</thead>
<tbody>
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<tr>
<td>Grade II</td>
<td>56</td>
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<td>Grade III</td>
<td>40</td>
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<tr>
<td>&lt; 25 years</td>
<td>12</td>
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<td>25-35 years</td>
<td>148</td>
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<tr>
<td>&gt;35 years</td>
<td>4</td>
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<td>Anesthesia</td>
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<tr>
<td>Spinal</td>
<td>64</td>
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<tr>
<td>General</td>
<td>28</td>
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<tr>
<td>Gravida</td>
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<td>Multi</td>
<td>88</td>
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<td>Primary</td>
<td>76</td>
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<tr>
<td>Fetal Presentation</td>
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<tr>
<td>Cephalic</td>
<td>132</td>
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<tr>
<td>Breach</td>
<td>32</td>
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<td>Mode of Delivery</td>
<td></td>
</tr>
<tr>
<td>C-Sect</td>
<td>92</td>
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<tr>
<td>NVD</td>
<td>72</td>
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<tr>
<td>Prolong Labor</td>
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<td>Yes</td>
<td>12</td>
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Table No. 3: Outcome

<table>
<thead>
<tr>
<th>HIE staging</th>
<th>I</th>
<th>II</th>
<th>III</th>
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<tbody>
<tr>
<td>Outcome</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Improved</td>
<td>60 (37.1%)</td>
<td>44 (26.8%)</td>
<td>4 (2.43%)</td>
</tr>
<tr>
<td>Death</td>
<td>7 (4.26%)</td>
<td>12 (7.31%)</td>
<td>36 (21.9%)</td>
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<tr>
<td>Anesthesia</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>General</td>
<td>16 (9.7%)</td>
<td>8 (4.8%)</td>
<td>4 (2.4%)</td>
</tr>
<tr>
<td>Spinal</td>
<td>28 (17%)</td>
<td>24 (14.6%)</td>
<td>12 (7.3%)</td>
</tr>
<tr>
<td>No</td>
<td>24 (14.6%)</td>
<td>24 (14.6%)</td>
<td>20 (12.1%)</td>
</tr>
<tr>
<td>Presentation of fetus</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>breech</td>
<td>20 (12.1%)</td>
<td>8 (4.8%)</td>
<td>4 (2.4%)</td>
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<tr>
<td>cephalic</td>
<td>48 (29.2%)</td>
<td>48 (29.2%)</td>
<td>36 (21.9%)</td>
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<tr>
<td>Mode of delivery</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>C-Section</td>
<td>48 (29.2%)</td>
<td>28 (17%)</td>
<td>16 (9.7%)</td>
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<tr>
<td>Normal Delivery</td>
<td>20 (12.1%)</td>
<td>28 (17%)</td>
<td>24 (14.6%)</td>
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<tr>
<td>History of prolonged labor</td>
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<td>86 (48.8%)</td>
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<td>60 (37.1%)</td>
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<td>Prolapsed umbilical cord</td>
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<td>0</td>
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<td>No</td>
<td>68 (41.6%)</td>
<td>52 (31.7%)</td>
<td>40 (24.3%)</td>
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<tr>
<td>Cephalopelvic disproportion</td>
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<td></td>
<td></td>
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<td>0</td>
<td>4 (2.4%)</td>
<td>0</td>
</tr>
<tr>
<td>No</td>
<td>68 (41.6%)</td>
<td>52 (31.7%)</td>
<td>40 (24.3%)</td>
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<tr>
<td>Maternal hypotension</td>
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<tr>
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<td>0</td>
<td>4 (2.4%)</td>
<td>0</td>
</tr>
<tr>
<td>No</td>
<td>68 (41.6%)</td>
<td>52 (31.7%)</td>
<td>40 (24.3%)</td>
</tr>
<tr>
<td>Maternal hypotension</td>
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<tr>
<td>Premature rupture of membranes (PROM)</td>
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<td>Yes</td>
<td>36 (21.9%)</td>
<td>16 (9.7%)</td>
<td>12 (7.3%)</td>
</tr>
<tr>
<td>No</td>
<td>32 (19.5%)</td>
<td>40 (24.3%)</td>
<td>28 (17%)</td>
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<tr>
<td>Maternal Fever</td>
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<td>8 (4.8%)</td>
<td>12 (7.3%)</td>
<td>20 (12.1%)</td>
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<tr>
<td>No</td>
<td>60 (37.1%)</td>
<td>44 (26.8%)</td>
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<tr>
<td>Multiple births</td>
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<td>Yes</td>
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<td>4 (2.4%)</td>
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<tr>
<td>No</td>
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<tr>
<td>Polysydramnios</td>
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<td>Oligosydramnios</td>
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<td>4 (2.4%)</td>
<td>4 (2.4%)</td>
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<tr>
<td>No</td>
<td>64 (39%)</td>
<td>52 (31.7%)</td>
<td>36 (21.9%)</td>
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<tr>
<td>Meconium-stained amniotic fluid</td>
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<td>4 (2.4%)</td>
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<tr>
<td>No</td>
<td>68 (41.6%)</td>
<td>56 (31.7%)</td>
<td>36 (21.9%)</td>
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<tr>
<td>Abnormal fetal heart rate or rhythm</td>
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<td>12 (7.3%)</td>
<td>12 (7.3%)</td>
<td>12 (7.3%)</td>
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<tr>
<td>No</td>
<td>56 (31.7%)</td>
<td>52 (31.7%)</td>
<td>28 (17%)</td>
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<tr>
<td>Premature delivery</td>
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<td>Yes</td>
<td>12 (7.3%)</td>
<td>16 (9.7%)</td>
<td>8 (4.8%)</td>
</tr>
<tr>
<td>No</td>
<td>56 (31.7%)</td>
<td>40 (24.3%)</td>
<td>32 (19.5%)</td>
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</table>

DISCUSSION

Our study showed 21.9% neonates died due to HIE grade 3 and it was present in 24.4% neonates while, only 2.4% expired due to HIE grade 1 and its frequency was 41.5%. Over all death rate was 33%. A different local study from Rawalpindi showed Stage II HIE, was most frequent i.e. 55.6% while stage III cases were 26.1% and stage I was least frequent 18.3%. 40.8% neonates expired. There was no effect of parity on Asphyxia. A death rate was high in this study because in this study neonates were both, hospital and home born, while in our study all neonates were hospital born. Another local study from Lahore showed, Hypoxic ischemic encephalopathy stage I (39.3%), II (40%) and III (11.5%). 78.7% babies were discharged and 21.3% died. The death rate was lower in this study as compare to our study (33%), and this may be due to decreased number of Grade 3 HIE neonates in this study.

Another similar local study from Lahore done over asphyxiated newborns showed Grade 1 HIE in 36.8%, stage 2 in 32.0% and stage 3 in 20.8%. 59.7% of the asphyxiated newborns showed Grade 1 HIE in 36.8%, while in our 52% neonates were premature. In another similar local study from Rawalpindi showed Stage II HIE, was most frequent i.e. 55.6% while stage III cases were 20.8%. Another local study from Lahore showed, Hypoxic ischemic encephalopathy stage I (39.3%), II (40%) and III (11.5%). 78.7% babies were discharged and 21.3% died. The death rate was lower in this study as compare to our study (33%), and this may be due to decreased number of Grade 3 HIE neonates in this study.

CONCLUSION

In this study most common type was grade 1 Hypoxic Ischemic Encephalopathy 37.1%. Grade 3 HIE was least common but death rate was more in it 21.9%. Death was least common in grade 1 HIE 4.26%.

REFERENCES

1. Lawn JE, Cousens S, Zupan J, Lancet Neonatal Survival Steering Team. 4 million neonatal deaths:


Diagnostic Challenge of Carcinoma Breast on Core Biopsy - Role of p63 and Cytokeratin 8/18

Rubina Gulzar, Ruqaiya Shahid, Shazia Mumtaz, Yusra Memon, Farheen Danish and Talat Mirza

ABSTRACT

Objective: The goal of this study was primarily to test the diagnostic utility of immunohistochemical stains p63 and cytokeratin 8/18 in the differentiation of malignant and non malignant lesions to prevent unnecessarily surgical intervention.

Study Design: Comparative / cross sectional study.

Place and Duration of Study: This study was conducted at the Department of Pathology, Dow University of Health Sciences, Karachi from 1 January 2015 to 31 January 2016.

Materials and Methods: Immunohistochemical stains p63 and cytokeratin 8/18 were performed on 182 cases on needle core breast biopsies. Patients’ name, age, histology numbers, diagnosis, type of tumor, grade of tumor, and expression of p63 and cytokeratin 8/18 were recorded with special emphasis on myoepithelial layer integrity and foci of invasion.

Results: Total number of cases were 182. Mean age was 42 years (27-70), malignant lesions 113 (62.1%), benign lesions 18 (9.8%), fibroepithelial lesion 10 (5.5%), papillary lesions 4 (2.2%), benign breast tissue 37 (20.3%). Most common malignant lesion was infiltrating ductal carcinoma 98 (53.8%) followed by infiltrating lobular carcinoma 3 (1.6%), mucinous carcinoma 2 (1.1%) & ductal carcinoma in situ 10 (5.5%). Benign lesions were peri ductal mastitis/chronic granulomatous mastitis 10 (5.5%), sclerosing adenosis 3 (1.6%) and ductal hyperplasia 5 (2.7%).

Conclusion: The responsibility of the pathologist is to provide accurate diagnosis thus placing the patient in the appropriate therapeutic algorithm.

Key Words: Carcinoma breast, Core biopsy, p63 & cytokeratin 8/18 expression.

INTRODUCTION

Breast cancer is the most common cancer in females with a reported incidence of 1.67 million in 2012. Breast cancer is the most frequent cancer in women in Karachi, accounting for one-third of all cancers in the females and its incidence is second highest in Asia after Israel. According to a recent study in Pakistan (Ahmed S et al. 2013), breast cancer is one of the top malignancies (19.7%) in females.

Previously Fine needle aspiration Cytology (FNAC) was the established cell collection technique for the diagnosis of breast cancer. However, for the last two decades it is largely replaced by core needle biopsy (CNB). Core biopsy provides an accurate pre-operative diagnosis and is a successful method of choice with 96% sensitivity and 99% specificity. CNB is certainly more reliable than cytology and is less invasive than surgical biopsy, and allows the best therapeutic treatment options. However in everyday diagnostics, pathologist encounters cases in which the distinction between benign and malignant cases is challenging. This is because the morphologic features become more challenging due to limited available material, in such type of cases definitely requiring ancillary studies, to reach an accurate diagnosis.

The Breast ducts and acini contain two types of epithelial cells, inner luminal and outer basal/myoepithelial cells. These cells can be distinguished by their immunophenotype. Cytokeratin (CK) 8/18 is expressed in the luminal layer, whereas CK5/14 and the transcription factor p63 characterizes the basal epithelial layer.

The fundamental step for carcinogenesis is the loss of myoepithelial layer and loss of architecture which can easily be demonstrated by the use of immune-histochemistry.

There is no study to date that compares the utility of p63 and cytokeratin 8/18 immunostains in the workup of clinically challenging core biopsy cases. Therefore, the goal of the present study is to assess the diagnostic
utility of p63 and cytokeratin 8/18 in the distinction of benign, insitu and invasive malignant cases.

MATERIALS AND METHODS

Case Selection: It is a comparative, cross sectional, prospective study performed at Dow Diagnostic Research and Reference Laboratory, Dow University of Health Sciences, Karachi, from 1st Jan 2016 to 31 Jan 2017. This includes 182 cases of core breast biopsies in which there was high clinical suspicion of breast carcinoma but these were not conclusive on H & E and required further IHC stains. IHC CK 8/18 and p63 were applied. All other type of biopsies including mastectomie cases, lumpectomies, excision and wedge biopsies were excluded.

Immuno-histochemistry: Four millimeter thick sections were deparaffinized in xylene and dehydrated. Antigen retrieval was done by boiling target DAKO Envision retrieval solution (high PH 505) for 40mins at 96-99°C. Endogenous peroxidase activity was blocked by treatment with DAKO Envision flex peroxidase blocking reagent. The slides were incubated for 20-30mins at room temperature in humidity chamber with appropriate dilutions of primary antibodies along with their positive and negative controls. The slides were then incubated with secondary antibody (Envision horse reddish peroxidase) for coupling reaction for 20-30mins at room temperature. The substrate (Diamino benzidine +Chromogen) was used to produce crisp brown color at the site of target antigen. Hematoxylin (1-2 dips) was used as a counter stain. Controls of p63 and cytokeratin 8/18 positive stains were applied on the same slides.

Evaluation of immunohistochemistry: In the majority of benign breast glands, p63 antibodies demonstrated intense basal cell-specific nuclear immunostaining. In questionable foci, positive staining was taken as an evidence of benignity and deeper levels of H&E were examined. Negative staining of an entire suspicious focus was taken as presumptive evidence of malignant process; as long as the morphology was in agreement with the diagnosis. CK8/18 scored positive if any cytoplasmic and/or membranous tumor cell staining was observed.

Statistical Analysis: Data was analyzed using SPSS version 20, and descriptive statistics were calculated as mean and median for age of patients and frequency and percentages for different type of breast lesions.

RESULTS

Total number of selected cases was 182. On all these cases IHC stains CK8/18 and p63 were applied for diagnosis. Mean age of the patients was 42 years (27-70).
Of these cases lesions were diagnosed as malignant 113(62.1%), 18(9.8%) were diagnosed as benign, 10(5.5%) were fibro epithelial lesions, 4(2.2%) were papillary lesions and 37(20.3%) were ultimately diagnosed as benign breast tissue.

Most common malignant lesion was Infiltrating Ductal Carcinoma 98(53.8%) followed by Infiltrating lobular Carcinoma 3(1.6%), Muconic Carcinoma 2(1.1%) & Ductal Carcinoma in S itu were 10(5.5%).

Benign lesions were peri-ductal mastitis/chronic granulomatus mastitis 10(5.5%), sclerosing adenosin 3(1.6%) and ductal hyperplasia 5(2.7%).

DISCUSSION

Breast lesions have diverse morphological appearances. The differential diagnosis of breast carcinoma in needle biopsy includes an array of possibilities, from normal structures such as small benign ducts, acini or sclerosing adenosin to atypical ductal hyperplasia and Ductal Carcinoma in situ. Reis-Filho JS et al(2002) for the first time, evaluated the diagnostic utility of p63 staining in differentiating in situ and invasive malignancies on fine needle aspiration. 

In malignant tumors the immunohistochemical stain p63 showed complete loss of myoepithelial layer and Cytokeratin 8/18 highlighted foci of invasion. Our study highlights the usefulness of combination of these two stains in differentiating benign from malignant and two of the cases which were reported as carcinoma but low power appearance of intact lobular architecture and lack of cytological atypia and intact myoepithelial layer and support from the IHC combination helped in establishing the correct diagnosis. 

Previous studies have reported that sclerosing adenosin as well as associated with invasive carcinoma on excision biopsy in 28-30% of cases. Reaching the correct diagnosis on core needle biopsy is important for appropriate management of the patient.

CONCLUSION

We recommend an immunohistochemical panel approach based on the differential diagnostic scenario as the best practice for distinguishing breast cancer and its mimickers on needle core biopsies to avoid unnecessary mastectomies and surgeries. The availability of myoepithelial markers, p63 and cytokeratin 8/18 provide significant role in such type of cases. We also recommend that intermediate level sections be prospectively obtained on charged (gelatinized) slides for potential immunohistochemistry and additional morphologic evaluation.

Author’s Contribution:
Concept & Design of Study: Rubina Gulzar
Drafting: Farheen Danish, Talat Mirza
Data Analysis:
Revisiting Critically: Ruqaiya Shahid,
Shazia Mumtaz, Yusra Memon
Final Approval of version: Rubina Gulzar

Conflict of Interest: The study has no conflict of interest to declare by any author.
REFERENCES


Objective: The study is planned to find out the frequency of various skin lesions in OPD of a district level hospital.

Study Design: Retrospective / Descriptive study.

Place and duration of study: The study was conducted in OPD of Department of Dermatology, Civil Hospital, Hyderabad form 1st January to 31st December, 2016.

Material & Method: The study included 801 cases attending the Dermatology OPD of Civil Hospital, Hyderabad. The cases were divided into A, B & C Groups; Group A comprised of children, Group B adults and group C old age patients. Each group comprised 267 patients. This study was mainly based on clinical examination but in some cases laboratory help from LUMHS research laboratory was taken.

Results: In Children Infestations were highest (37.45%), next were cases of bacterial infections (24.34%), Fungal infections (19.10%), viral (11.23%) and atopic (7.86%). In Adults viral infections were highest (29.96%), next were cases of infestations (22.47%), fungal (20.22%), atopic (17.97%) & bacterial infections (14.98%). In old age patients Fungal infections (48.69%) were highest, next were cases of viral (17.60%), bacterial infections (14.98%), infestations (11.23%) and atopic (7.49%).

Conclusion: The skin lesions are very common in our practice. To reduce the spread of all sorts of infections and infestations among the population it is necessary to follow preventive measures. Public at large must be made aware of simple measures like avoidance of sharing of clothing, sports items, towels or bed sheet. Washing of clothes should be done with hot water. Fungicidal soap should be used in suspected exposure to ring worms. Barefoot walk should be avoided.

Key Words: Bacterial skin infections, skin infestations, viral skin infections, atopy


INTRODUCTION

The skin disorders are very common in our community. There are varieties of lesions and some of them can be prevented by improving self-hygiene or other simple measures. The skin is a vital and largest organ of the human body, which shows / reflects not only external signs and symptoms but also internal pathology. In skin lesions the most common complaint is the itching/pruritis along with other complaints. The itch / pruritis is an unpleasant sensation that leads to the desire to scratch. It has many similarities to pain and both are unpleasant sensory experience but their behavioral response pattern are different, pain creates a reflex withdrawal while itch lead to a scratch reflex.

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MATERIALS AND METHODS

The study included 801 cases attending the Dermatology OPD of Civil Hospital, Hyderabad from 1st January to 31st December, 2016. The cases were divided into A, B & C Groups; Group A comprised of children, Group B adults and group C old age patients. Each group comprised 267 patients. This study was mainly based on clinical examination but in some cases laboratory help from LUMHS research laboratory was taken.

RESULTS

In Group A (Children) Infestations were highest (37.45%), next were cases of bacterial infections (24.34%), Fungal infections (19.10%), viral infections (11.23%) and atopic (7.86%). (Table No. 1)

In Group B (Adults) viral infections were highest (29.96%), next were cases of infestations (22.47%), fungal infections (20.22%), atopic (17.97%) & bacterial infections (9.36%). (Table No. 2)

In Group C (Old age) Fungal infections (48.69%) were highest, next were cases of viral infections (17.60%), bacterial infections (14.98%), infestations (11.23%) and atopic (7.49%). (Table No. 3)

The distribution of various lesions in different groups is given in Table No. 4.

Table No. 1: Distribution of skin lesion in group A (n=267)

<table>
<thead>
<tr>
<th>S. No.</th>
<th>No. of Patients</th>
<th>Name of disease</th>
<th>Clinical diagnosis</th>
<th>Laboratory diagnosis</th>
<th>Lesions %</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Bacterial n=65</td>
<td>Impetigo, folliculitis, erythema</td>
<td>Crusted sore +ve on skin</td>
<td>Culture +ve</td>
<td>24.34%</td>
</tr>
<tr>
<td>2</td>
<td>Infestations n=100</td>
<td>Scabies and louse</td>
<td>Bite like sore with itching, with grayish skin</td>
<td>Not done</td>
<td>37.45%</td>
</tr>
<tr>
<td>3</td>
<td>Fungal infection n=51</td>
<td>Tinea corpus and other sides</td>
<td>Lesions are annular, marginated with scale &amp; clear center</td>
<td>KOH &amp; Direct Microscopy</td>
<td>19.10%</td>
</tr>
<tr>
<td>4</td>
<td>Viral infection n=30</td>
<td>Chickenpox, measles</td>
<td>Blister with fever, cough sore throat</td>
<td>Not done</td>
<td>11.23%</td>
</tr>
<tr>
<td>5</td>
<td>Atopic n=21</td>
<td>Disease</td>
<td>Irregular raised red sores</td>
<td>Not done</td>
<td>7.86%</td>
</tr>
</tbody>
</table>

Table No. 2: Distribution of skin lesion in group B (n=267)

<table>
<thead>
<tr>
<th>S. No.</th>
<th>No. of Patients</th>
<th>Name of disease</th>
<th>Clinical diagnosis</th>
<th>Laboratory diagnosis</th>
<th>Lesions %</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Bacterial n=25</td>
<td>Fruncle, cellulitis</td>
<td>Red, tender and swollen area seen</td>
<td>Gr. staining +ve</td>
<td>9.36%</td>
</tr>
<tr>
<td>2</td>
<td>Infestations n=60</td>
<td>Scabies and urticaria</td>
<td>H/o severe itchiness and pimple like skin rash, sometime grayish lesion on skin along with burrow</td>
<td>Not done</td>
<td>22.47%</td>
</tr>
<tr>
<td>3</td>
<td>Fungal infection n=54</td>
<td>Tinea corporis, versicolor and other sides</td>
<td>Lesions are annular, marginated with plaque, scale &amp; clear center</td>
<td>KOH &amp; Direct Microscopy</td>
<td>20.22%</td>
</tr>
<tr>
<td>4</td>
<td>Viral infection n=80</td>
<td>H.simplex, H. zoster, P.rosea</td>
<td>Not done</td>
<td>Not done</td>
<td>29.96%</td>
</tr>
<tr>
<td>5</td>
<td>Atopic n=48</td>
<td>Not done</td>
<td>Not done</td>
<td>Not done</td>
<td>17.97%</td>
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</tbody>
</table>

Table No. 3: Distribution of skin lesion in group C (n=267)

<table>
<thead>
<tr>
<th>S. No.</th>
<th>No. of Patients</th>
<th>Name of disease</th>
<th>Clinical diagnosis</th>
<th>Laboratory diagnosis</th>
<th>Lesions %</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Bacterial n=40</td>
<td>Fruncle, cellulitis</td>
<td>Red, tender and swollen area seen</td>
<td>Gr. staining +ve</td>
<td>14.98%</td>
</tr>
<tr>
<td>2</td>
<td>Infestations n=30</td>
<td>Scabies and urticaria</td>
<td>H/o severe itchiness and pimple like skin rash, sometime grayish lesion on skin along with burrow</td>
<td>Not done</td>
<td>11.23%</td>
</tr>
<tr>
<td>3</td>
<td>Fungal infection n=130</td>
<td>Tinea corporis, versicolor and other sides</td>
<td>Lesions are annular, marginated with plaque, scale &amp; clear center</td>
<td>KOH &amp; Direct Microscopy</td>
<td>48.69%</td>
</tr>
<tr>
<td>4</td>
<td>Viral infection n= 47</td>
<td>H.simplex, H. zoster, P.rosea</td>
<td>Not done</td>
<td>Not done</td>
<td>17.60%</td>
</tr>
<tr>
<td>5</td>
<td>Atopic n=20</td>
<td>Not done</td>
<td>Not done</td>
<td>Not done</td>
<td>7.49%</td>
</tr>
</tbody>
</table>
DISCUSSION

The bacterial skin infections affected about 155 million people and cellulitis occurred in about 37 million people in 2013.7 Our study also reveal that the bacterial infections are very common in children (24.34%), higher as compared to other age groups (Table No. 4). It is in accord with other international studies. Infestation lesions are contaminated with bacteria as secondary infection.

Fungal skin infections may present as either superficial or deep infection of the skin, hair and nails. According to study of 2010 they affect about one million people globally.8 In our study the highest incidence is in old age (48.69%).

Parasitic infestations, stings and bite in humans are caused by several groups of organisms belonging to the various species like Arthropoda, Chordata, Helminthes and Protozoa. The WHO reports also probe the prevalence of skin infestation lesions. Scabies is more often seen in crowded places with poor hygiene conditions.8 Globally as of 2009 about 300 million cases of scabies occur each year.8,9,10 The scabies are one of three most common skin disorders in children alone with ring worm and bacterial skin infections.8 As per study of 2010 it affects approximately 100 million people (1.5% of the world population) and is equally common in both sex.11 It is more common in young and old age and also more common in developing world and in tropical climate.11 In our study infestations were 37.45% in children, 22.47% in adult and 11.23% in old age. (Table No. 4)

CONCLUSION

The skin lesions are very common in our practice. To reduce the spread of all sorts of infections and infestations among the population it is necessary to follow preventive measures. Public at large must be made aware of simple measures like avoidance of sharing of clothing, sports items, towels or bed sheet. Washing of clothes should be done with hot water. Fungicidal soap should be used in suspected exposure to ring worms. Barefoot walk should be avoided.

Author’s Contribution:
Concept & Design of Study: Mir Muhammad Sahito Younas
Drafting: Mir Muhammad Sahito Younas
Data Analysis: Ikram, Ahmad Tunio, Fizzah Iqbal

<table>
<thead>
<tr>
<th>S. No.</th>
<th>No. of skin Lesion</th>
<th>Group A(Children)</th>
<th>Group B(Adults)</th>
<th>Group C(Oldage)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Bacterial</td>
<td>24.34%</td>
<td>9.36%</td>
<td>14.98%</td>
</tr>
<tr>
<td>2</td>
<td>Infestations</td>
<td>37.45%</td>
<td>22.47%</td>
<td>11.23%</td>
</tr>
<tr>
<td>3</td>
<td>Fungal infection</td>
<td>19.10%</td>
<td>20.22%</td>
<td>48.69%</td>
</tr>
<tr>
<td>4</td>
<td>Viral infection</td>
<td>11.23%</td>
<td>29.96%</td>
<td>17.60%</td>
</tr>
<tr>
<td>5</td>
<td>Atopic/ Miscellaneous</td>
<td>7.86%</td>
<td>17.97%</td>
<td>7.49%</td>
</tr>
</tbody>
</table>

Table No. 4: Group wise Distribution of skin lesion (age-wise distribution).

REFERENCES
A Biochemical and Morphological Comparison of the Role of L-Arginine on the High Saturated and Unsaturated Fat Diet Induced Changes on Adrenocortical Cells of Albino Rats

Iram Qudous¹, Imtiaz Manzoor² and Aisha Qamar³

ABSTRACT

Objective: Fatty diet produces both biochemical and histological changes in the adrenal cortex of albino rats. Present study objectives were to see if L-Arginine ameliorates the affects produced by both saturated and unsaturated fat equally.

Study Design: A prospective experimental study

Place and Duration of Study: This study was conducted at the Department of Anatomy, BMSI, JPMC, Karachi from August to October 2008.

Materials and Methods: A total of 50 Albino rats weighing 200-240gms, aged 190 days were divided into 5 groups. Group A received standard laboratory diet. Group B received 20% saturated added fat as unsalted butter in diet. Group C received 20% unsaturated added fat as corn oil in diet. Group D received saturated fat with L-Arginine 300mg/kg body weight/day orally. Group E received unsaturated fat along with L-Arginine 300mg/kg body weight/day orally. After 8 weeks study period, animals were weighed and sacrificed and blood was drawn for hormonal assays. Adrenal glands were removed and fixed in buffered neutral formalin. They were then sectioned with cryostat in 10µm sections and stained with Oil red O to visualize fat in cells.

Results: Highly significant decrease observed in both ACTH and Corticosterone levels in Group D and E when compared to B and C respectively, but insignificant difference was found between D&E. Oil red O stained sections showed less densely packed fat globules in group D and E compared to B and C respectively. The results when compared between D and E were not significant.

Conclusion: L-Arginine lowers down the level of stress hormones in body and amount of fat in cortical cells in both groups receiving saturated and unsaturated fat diet with L-Arginine but their comparison didn’t show significant difference statistically.

Key Word: Saturated fat, Unsaturated fat, Adrenal gland, L-Arginine.

INTRODUCTION

Quality and quantity of diet influence organismal homeostasis adversely in different ways; one of the most important among them is activation of stress system with chronic elevation of stress mediators. Several studies investigated role of nutrients in the regulation of HPA(Hypothalmo-Pituitary-Adrenal) axis and stress responsiveness, studies in genetically obese (Zuker) rats have shown activation of HPA axis by them and hyper reactivity to stressful experimental conditions due to their consumption. Other studies show high fat feeding alters both basal and stress induced increased HPA activity in rats.

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It has been shown that high fat diet augment ACTH (Adrenocorticotropic hormone) and Corticosterone hormone, therefore in terms of HPA axis stimulation, increased fat consumption functions as chronic stressor. In animals lipid infusion induces increased levels of both hormones. Type of fatty acid and therefore type of fat have different effects on HPA axis activation.

Modern life style is characterized by diet high in fat, predominantly saturated, contributing to high prevalence of obesity and metabolic syndrome. Both psychological and fatty diet induced stress manifest their deleterious effects by stimulating the HPA axis chronically leading to abnormal secretion of stress hormones. Agents which can prevent the excessive release of these stress hormones could prevent their hazardous contribution to disease phenomenon. Among the agents used to decrease psychological stress L-Arginine is one of the semi-essential Amino acid which by means of Nitric oxide production down regulate excessive production of steroids from adrenal cortex. Present study was done to observe and compare the ameliorating effect of L-Arginine.
Arginine on the morphological and functional changes produced by two different types of fatty diet.

MATERIALS AND METHODS

In this study 50 male adult Albino rats aged 190 days weighing 200-240gm were selected and kept on normal diet for a week under observation with 12 hours dark and light cycle, before commencement of study period. Animals were divided into groups A, B, C, D and E according to the diet they received, each comprising of 10 animals. Group A received normal laboratory diet. Group B received high saturated fat, 20gm unsalted dairy butter in 100gm of diet. Group C received high unsaturated fat, 20 ml corn oil in 100 gm of diet. Group D received high saturated fat along with 300mg L-Arginine /kg body weight/day orally (General Nutrition Corporation, Pittsburg, USA). Group E received high unsaturated fat along with 300mg L-Arginine /kg body weighed. Animals were housed in cages under, standard laboratory conditions of 12 hours day and night. After completion of study period animals were dissected after ether anesthesia. Blood sample were taken at the time of dissection through intra-cardiac puncture and shifted to lavender tubes containing EDTA and centrifuged for 15 minutes at 3500 Hz to get plasma, which was stored at -20 $^\circ$C for analysis. Plasma ACTH levels were determined by Elisa kit (Biomerica) and Corticosterone levels also by Elisa method (Neogen Corporation). Adrenals were removed and fixed in 10% buffered neutral formalin and sectioned by cryostat to 10µm sized sections which were stained with Oil Red O to demonstrate lipids. Statistical analysis was done by students’ t test and P value less than 0.05 was considered as significant. Calculations were done by utilizing computer software SPSS version 13.

RESULTS

The results of hormonal assays showed that highly significant decrease in plasma ACTH levels (Graph-1) was observed in butter with L-Arginine and corn oil with L-Arginine receiving groups, when compared to only butter and corn oil receiving groups respectively. Plasma Corticosterone levels (Graph-2) in butter with L-Arginine and corn oil with L-Arginine receiving groups when compared with butter and corn oil alone showed moderately significant decrease. When ACTH and Corticosterone levels were compared in butter with L-Arginine and corn oil with L-Arginine receiving groups there was no statistically significant difference. Microscopic study of sections stained with Oil Red O, of adrenal cortex of butter receiving animals showed more densely packed fat globules(Fig-1), while corn oil receiving group showed densely packed fat globules(Fig-2). Both butter with L-Arginine and corn oil with L-Arginine showed less densely packed fat globules (Fig 3 & 4) and there was not much difference among the two.
Figure No.4: Oil Red O & Haematoxylin stained, 10 µm thick frozen section of rat adrenal cortex showing less densely packed distribution of fat globules (FA) in zona glomerulosa (ZG) and zona fasciculate (ZF) after 8 weeks treatment with Corn oil & L-Arginine. Photomicrograph X400

Graph No.1: Mean Plasma ACTH Hormone in different groups of Albino rats

Graph No.2: Mean plasma Corticosterone in different groups of Albino rats

DISCUSSION

In modern society we are facing stress in two ways psychological stress and consumption of fatty diet which appeared to have synergistic affect\(^1\)\(^2\). High fat diet is associated with high HPA axis responsiveness which leads to obesity and metabolic syndrome \(^3\). In present study fat was given in two forms Butter (saturated) and corn oil (unsaturated), 20% of total calories. Both ACTH and Corticosteroid levels were found to be high in animals receiving saturated and unsaturated fat. Tannenbaum et al\(^4\) used corn oil and Wood et al\(^5\) used butter in the same amount alone, while Legender and Harris\(^6\) used a mixture of corn and coconut oil and observe the hormonal levels after mild stress. Widmaier\(^7\) and his colleagues observed that infusions of fatty acid in rats increased stress hormone level indiscriminatively but when fatty acids were introduced to cultured adrenal cortical cells there was no stimulatory affect when saturated fatty acids were used. Hisanao et al\(^8\) on the other hand found in their study that olive oil compared to corn oil and safflower oil when fed to rats and exposed to repeated stress result in higher levels of corticosterone.

L-Arginine seems to decrease the levels of both hormones when used with the two types of fat, there was no statistically significant difference in levels of both hormones in the two fat groups. Tannenbaum et al\(^4\) observed the effect of L-Arginine in decreasing the level of stress hormones induced by nicotine and found a significant decrease in levels, while Smriga et al\(^9\) used L-Arginine to reduce corticosterone levels and anxiety. Tannenbaum et al\(^4\) used L-Arginine to decrease stress hormone levels in turbot after repeated handling.

Oil red O stained sections of saturated and unsaturated fat groups showed increased amount of fat globules in the three zones particularly zona fasciculata and glomerulosa (Fig-1&2). Comparison of the stained section showed that fat globules are more in saturated fat diet group. D-Souza\(^10\) and his fellows in their study induced metabolic syndrome by giving high fat and carbohydrate diet similar to junk food consumed nowadays having lard in it, their finding showed fat accumulation in adrenal cortex similar to us.

Oil red O stained sections of Saturated and unsaturated fat with L-Arginine showed decreased amount of fat globules in the cortical zones when compared with only fat consuming group (Fig -3&4). Comparison of protection provided by L-Arginine among the 2 type of fat is not markedly different. L-Arginine possibly prevent fat accumulation and decreased steroidogenesis by decreasing amount of lipid in blood\(^11\) which could decrease influx in adrenal gland and by acting through NO (nitric oxide) production decrease steroidogenesis as observed by Repetto et al\(^12\).

Diaz et al in their study used a mixture of saturated fatty acids and unsaturated fatty acid and observed the protection provided by vitamin C. Vitamin C could inhibit fatty diet induced excessive steroidogenesis from adrenal gland but that is because of down regulation of stereodogenic acute regulatory protein and hydroxysteroid 11 beta dehydrogenase 2 genes as observed by Diaz et al\(^13\). They didn’t compare the types of fat.
CONCLUSION

Despite of well documented superiority of unsaturated fats in terms of health benefits present study results does not show marked difference regarding fat accumulation in adrenal cortex and increased steroidogenesis. Use of L-Arginine along the two type of fatty diets does not show much difference in its affects which is promising in case of saturated fat.

**Author’s Contribution:**
Concept & Design of Study: Iram Qudous
Drafting: Iram Qudous
Data Analysis: Imtiaz Manzoor
Revisiting Critically: Aisha Qamar
Final Approval of version: Iram Qudous

**Conflict of Interest:** The study has no conflict of interest to declare by any author.

**REFERENCES**


Role of Micral Test For the Detection of Microalbuminurea
Amjad Ali¹, Muhammad Siyar², Usman Ali³ and Muhammad Khalid⁴

ABSTRACT

Objective: The object of this study is to assess the sensitivity of micral test for detection of microalbuminurea.

Study Design: Cross sectional study.

Place and duration of study: This study was conducted at the Department of Medicine, Mardan Medical Complex Mardan from 01 June to 31st May 2017.

Materials and Methods: A total of 100 adult type 2 diabetic patients were selected. Stable adult diabetic patients with no sign of complications on clinical examination were selected randomly in medical outdoor patient department irrespective of duration or control of diabetes. Spot urine samples were tested for albumin with Micral strip and then albuminuria was confirmed by 24 hour urinary albumin quantification.

Results: In this study 40% patients were in age range 40-50 years, were in age range 50-60 years and 28% were in age group 60-70 years. Fifty six percent patient were males and 44% patients were females. Eighty one patients showed proteinurea on micral strip method that was confirmed by 24 hour urinary albumin quantification. Eleven patients were showing no proteinuria both on micral strip method and 24 hour urinary quantification. False negative and false positive results were obtained in 4.3% and 13% patients respectively. Sensitivity and specificity was calculated 93% and 89% percent with 94% positive predictive value and 79% negative predictive value.

Conclusion: Micral spot test is a very sensitive and reliable test for detection of microalbuminurea.

Key Words: Sensitivity, Micral Test, Microalbuminurea, Diabetes Mellitus

INTRODUCTION

Microalbuminuria is one of serious complication of Type 2 diabetes that ends up with end stage renal disease (ESRD). Medical interventions at early diagnosis of microalbuminuria reduces the adverse outcome in diabetic patients. Diabetes mellitus accounts for majority of patients of end stage renal disease (ESRD). Those receiving renal replacement therapy were diabetics in (40%) United States Canada (24%), Australia (14%), Europe (17%) and Japan (28%)³. Nephropathy passes through well defined stages of microalbuminuria, microalbuminuria, impaired eGFR and ESRD in insulin dependent diabetes mellitus (IDDM) but this is less well defined in Non Insulin Dependent Diabetes Mellitus NIDDM. NIDDM also has non diabetic kidney disease in 30% in proteinuric patients³⁸. However for all patients detection of microalbuminuria warns us to take measures to prevent ESRD⁷ - ⁹. It should be done at diagnosis and yearly in NIDDM¹⁰.

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study. Data was analyzed with SPSS version 22.0.0.0 and is presented in tables and charts.

RESULTS

This was a cross sectional study conducted at Mardan Medical Complex, Mardan in which a total of 100 stable adult NIDDM patents were included. Age distribution among these patients was analyzed as 40 patients were in age range 40-50 years, 32 were in age range 50-60 years and 28 were in age group 60-70 years (Table No:1). Fifty six percent patients were males and 44% patients were females. Eighty one patients showed proteinurea on micral strip method that was confirmed by 24 hour urinary albumin quantification. Eleven patients were showing no proteinuria both on micral strip method and 24 hour urinary quantification. False negative and false positive results were obtained in 05(4.3%) and 03(03%) patients respectively. Sensitivity and specificity was calculated 93% and 89% percent with 94% positive predictive value and 79% negative predictive value (Table No:2).

<table>
<thead>
<tr>
<th>Age</th>
<th>Number of patients</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>40-50</td>
<td>40</td>
<td>40 %</td>
</tr>
<tr>
<td>50-60</td>
<td>32</td>
<td>32%</td>
</tr>
<tr>
<td>60-70</td>
<td>28</td>
<td>28%</td>
</tr>
</tbody>
</table>

Table No 2: Validity of Micral Strip Test to 24 hour Urinary Proteins Quantification

<table>
<thead>
<tr>
<th>24 Hour Urinary Proteins(mg/dl) (n:100)</th>
<th>Micral Strip Test(n:100)</th>
</tr>
</thead>
<tbody>
<tr>
<td>≥20</td>
<td>86</td>
</tr>
<tr>
<td>≤20</td>
<td>14</td>
</tr>
<tr>
<td>Sensitivity: 93%</td>
<td>Specificity: 89%</td>
</tr>
</tbody>
</table>

Table No 3: Proteinurea in age distribution (n=86)

<table>
<thead>
<tr>
<th>Proteinurea</th>
<th>2-5 years</th>
<th>8-10 years</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt; 1.5 gm</td>
<td>25</td>
<td>0</td>
</tr>
<tr>
<td>&gt; 1.5 gm</td>
<td>25</td>
<td>62</td>
</tr>
</tbody>
</table>

Figure No 1. Proteinurea in history of disease (n=86)

Proteinurea is amount directly related to duration of diabetes in 86%, (figure 1). In disease of less than two years history it is present in lesser amount less than 100mg. In 3-5 years it was less than 1.5 gm while in 8-10 years it is present in proteinuric range greater than 1.5 gm. (Table No: 3) In only one case it is still in microalbuminuric stage at 12th years. In two cases it was below microalbuminuric range at 3rd and 5th years (Normal).

DISCUSSION

Etiology of diabetic nephropathy includes (a) Genetic factors), (b) Sustained hyperglycemia, (c)Sustained hypertention, (d)glomerular hyperfiltration, (e)smoking, (f)dyslipidemia. It is more common in African, americans and Asians than Caucasians. Pima Indians a native American tribe is the best study model as they develop NIDDM at much earlier age. All stages can be observed without non diabetic proteinuric effect related to old age it is less in those with good glycemic control (Hb A1c 7%) (In the DCCT trial intensive treatment of hyperglycemia reduced the incidence of microalbuminuria by 39% and in UKPDS trial 30% reduction. Kumamoto study also support this fact. Microalbuminuria is observed after 5-15 yrs of IDDM. In Type 1 Diabetic patients 80% of microalbuminuric patients have progressed to albuminuria in 6-10 years. There are different methods to quantitatively measure urine. Difficulties include sample variation, standardization, inconvenience and effect of posture. Various methods include 24 hr urine for protein rate per minute, Spot specimen, early morning and sample at time of visit. Further refining is to divide this by creatinine excretion rate. In this study spot sample at visit time was tested via micral test and urinary creatinine measured. Just in one case it changed group of patient from microalbuminuria to normal range. In most cases just albumin essay is sufficient and without additional time and cost. This method is sensitive, accurate and convenient in respect of time and sample collection and much easy for repetition as follow up will also be required. However this is relatively expensive.ACE inhibition by rennin angiotensin system and selective blockade of angiotensin 1 receptor by ARB’s lowers microalbuminuria. A target BP below 130/80mmhg and statin drugs are recommended in all NIDDM.

CONCLUSION

Spot urine sample just for albumin at clinic/OPD visit time by Micral test is a useful test for early detection of Microalbumiurea to prevent ESRD.

Author’s Contribution:
Concept & Design of Study: Amjad Ali, Usman Ali
Drafting: Amjad Ali
Data Analysis: Muhammad Siyar
Revisiting Critically: Muhammad Khalid
Final Approval of version: Amjad Ali

Conflict of Interest: The study has no conflict of interest to declare by any author.
REFERENCES


To Determine the Effectiveness of Work Motivation, Through Communication Skills Training Program: A study of Medical Universities’ Teachers at Karachi

Ambreen Qamar¹, Syed Inayat Ali³, Faiza Ghuman² and Muhammad Owais⁴

ABSTRACT

Objective: The purpose of this study was to determine the effectiveness of the teachers training program at Medical University of Karachi. The study also aims to identify the requirements of Medical teachers in attending the training program.

Study Design: Case control study

Place and Duration of Study: This study was conducted at the Department of Physiology, Baqai Medical University, Karachi from November 2015 to March 2015.

Materials and method: Data accumulated through a set of questionnaire to that amount consists concerning twenty nine items. Sixty Medical instructors whoever attended the training program had been topics concerning the research.

Results: The responses had been analyzed by way of using the “Statistical Package for Social Science” (SPSS) 16.0. Statistical evaluation used to be ancient to analyze the responses. The Overall Effectiveness was 0.001, Building Teacher Confidence <0.001 and improving teacher motivation was 0.030. Further, rests of the factors were found insignificant response.

Conclusion: This component becomes the necessary needs over teachers because obeying the subsequent training program as observed by using the advantage about instructors that they want simple competencies have to stand addicted before long of the education program. The instructors additionally claimed they require the training program must stay longer (long term training) in light of the fact that it has demonstrated that the preparation was successful.

Key Words: Effectiveness, Communication Skills, Work Motivation


INTRODUCTION

Karachi is the largest city and former capital city of Pakistan. It is Pakistan's transportation chief, industrial center, seaport, financial and commercial hub. The six (06) medical universities are serving in private and public sector in Karachi.

Teachers, especially medical teachers are leaders who teach and guide medical students, help them to understand different medical and non-medical subjects and critical thinking skills, so they can develop a healthy and disease-free community. Educational requirements for teachers depend on their chosen specialty and their training should be the essential component. Unfortunately, there is no guarantee that the training they are getting will improve them as a medical teachers.

The significance of Communication abilities is to advance more compelling business practices and permit people inside the association to feel good speaking with others and to feel educated with the data they are getting. The vital components of the communication are: Listen, Send Clear Messages, Respect and Non-verbal behavior.

Maybe in acknowledgment of the quality issue, there is growing mindfulness that Medical educators should be fittingly prepared as instructors¹. Their preparation program focused on the instructing of restorative at authentication, certificate, Masters or Doctoral levels. Be that as it may, the dominant part of educators won't not be satisfactorily arranged to instruct⁷; enhancing their Communication abilities capability and showing aptitudes have therefore turned into a matter of concern.
That’s why power and length of the program are essential figures taking into account when outlining an expert advancement program.

Training program can give real effect in instructor’s change in his exploration finding expressed that instructor preparing is a sort of grown-up discovering that necessities individual process. It implies that the preparation must give the setting shape what the educators needs and needs to learn and, to some degree lesser degree, when and where learning happens. The members must include themselves in issue of information exchange. There are many confirmations to recommend certainty to show topic will impact instructing results.

**We can classify different types of communications as follows:**

- **Intra-personal Communication skills:** This proposes specific reflection, examination and thought. As per specialists this sort of Correspondence wraps conversing with the stunning and with spirits as supplications and traditions and capacities.
- **Interpersonal Communication skills:** This is quick, eye to eye Correspondence that occurs between two individuals. It is near and dear, arrange, and furthermore private and gives most outrageous correspondence through words and flags.
- **Focused Interactions:** This mainly occurs in light of a genuine affair between two individuals. This proposes the two individuals included are absolutely aware of the Correspondence happening between them.
- **Unfocused Interactions:** This happens when one just watches the ears of people with whom one is not talking. The in the most part happens at public places around us.
- **Nonverbal Communication skills:** This consolidates perspectives, for instance, non-verbal correspondence, signals, outward appearances, eye to eye interaction, which in like manner transform into a bit of the bestowing methodology. The impacts of Communication skills are Nonverbal communication, listening mindfully, communicating your musings, Certainty and lucidity, Correspondence botches, Thought of others.

Multiple surveys have been conducted to evaluate the issue of administration quality and understudy satisfaction. Fitri et al. evaluated advantage quality estimation i.e. substance, responsiveness, resolute quality, attestation, and sensitivity as positive benefactors towards understudy satisfaction. Ham and Hayduk uncovered that clear administration quality is an essential for satisfaction. Medical Educators keep on being the most basic effect on understudy comprehension and fulfillment in colleges.

Student evaluation of teaching (SET) is one of the most affective and time utilized instruments operated by advanced education foundations over the world. It was control gadget to quantify the showing execution/ viability of resources at a medical college.

According to Kirkpatrick, assessment or the level at which assessment happens is dependent on four level stages. In this four level models, each progressive assessment level is based on data given by the lower level. As indicated by this model, assessment ought to dependably start with level one, and after that, as time and spending plan permits, should move consecutively to every next level. Data from each earlier level fills in as a base for the following level's assessment. In this manner, each progressive level speaks to a more exact measure of the viability of the preparation program, yet in the meantime requires a more thorough and tedious investigation.

The medical teacher should direct development or sponsor sessions following a preparation program. Coaches ought to keep up their contribution in the preparation and exchange handle by leading field visits to watch learners’ utilization of prepared aptitudes, give and request input and give proceeded help and help to students.

**MATERIALS AND METHODS**

The strategy of research was to collect the data through questionnaire after training. The population of the study was comprised of teachers at Medical Universities of Karachi. It was about data collection through prescribed questionnaire after training received by the Medical Teachers. The content related to training program specially with respect to our topic and data collection available at Universities and some other relevant sources was also studied. The population was limited to the Medical Universities. Therefore stratified selected sampling design was adopted. The overall sample size of 60 teachers belonging to Medical Universities were selected as a part of sample the principle of stratification was gender and age. A questionnaire comprising of 34 items was designed, selected from literature review and in consultation with research supervisor. The procedure ensured the content validity of this questionnaire. The data were collected through questionnaire after the training. The reliability of the instrument was ensured through pilot testing. Two sorts of systematic methods were utilized. To begin with, quantitative which included elucidating measurable methods. Tables with rate were utilized for portrayal of information. The second kind of procedure utilized was subjective examination of the certainties was made insect the outcomes were depicted in the story.

**RESULTS**

From demographic data, the sample size was n=40 in which male and female were, n=16(40%) and n=24(60%) respectively, as well as the respondents have more than two year teaching experience as a teacher in the medical university. The lecturer were n=34 (85%) and n=6 (15%) were professorial staff from the various medical courses. All respondents stated that
they teach their respective subject at least twice a week. Simple statistical analysis was applied to the questionnaire data gathered which contains five sections A, B, C, D and E. The sample was comprises on 40% male and 60% female.

**Table No.1: Descriptive Comparison**

<table>
<thead>
<tr>
<th>N</th>
<th>Minimum</th>
<th>Maximum</th>
<th>Mean ± SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Overall effectiveness</td>
<td>40</td>
<td>1.27</td>
<td>3.00</td>
</tr>
<tr>
<td>Effectiveness in building teachers’ confidence</td>
<td>40</td>
<td>1.17</td>
<td>3.33</td>
</tr>
<tr>
<td>Effectiveness In Improving Teachers’ Motivation</td>
<td>40</td>
<td>1.20</td>
<td>2.80</td>
</tr>
<tr>
<td>Effectiveness in fulfill teachers’ needs</td>
<td>40</td>
<td>1.14</td>
<td>2.71</td>
</tr>
</tbody>
</table>

The mean score and standard deviation was 1.92 and 0.31 respectively of this section. From the mean score it can be classified future needs of teachers as the attending training program is low. The mean score and standard deviation was 2.11 and 0.49 respectively of this section. From the mean score it can be classified that the effectiveness of the training program in building teachers’ confidence level was low. The mean score for the section was 1.84 and standard deviation was 0.42. From the mean score it can be classified the motivation in teaching and has changed after attending the training program is low. The mean score for the section was 1.96 and standard deviation was 0.45. From the mean score it can be classified future needs of Teachers Future Needs in Attending the Training Program is low.

The analysis is based on according to respondents’ designation or their job responsibility. We have analyzed all the aspects to keep in mind the status of job. Which have been asked to the respondents and found that, the overall effectiveness of the training has significance as p-value 0.001. Effectiveness in Building Teachers’ Confidence is highly significant as the p-value is <0.001, the effectiveness of the training program in improving teachers’ Motivation is significant and Teachers Future Needs in Attending the Training Program is not significant.

The majority of the medical teachers responded that the overall training program they had attended was low effective (mean score was 1.93) of the teachers attended the training was successful in passing on new knowledge about methodologies to teaching their respective subject, the program increased teachers’ understanding of how teaching was 92.50% (n=37) acquired, teaching environment was 90% (n=36) applicable of this training program, it was a suitable forum for exchanging the ideas 85% (n=34), and it was successful in introducing to developing ideas for teaching in classroom, the overall effectiveness of training improve communication skills 90% (n=36), skills acquired was 95% (n=38) for the career advancement.

**Table No.2: Comparison of Communication Skills Training Program**

<table>
<thead>
<tr>
<th>Category</th>
<th>N</th>
<th>Mean ± SD</th>
<th>S.E</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>A. Designation Wise</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Overall Effectiveness</td>
<td>Lecturer</td>
<td>34</td>
<td>21.85 ± 3.02</td>
<td>0.51</td>
</tr>
<tr>
<td></td>
<td>Prof. /Assist Prof./ Assoc. Prof.</td>
<td>6</td>
<td>17.00 ± 3.28</td>
<td>1.34</td>
</tr>
<tr>
<td>Building Teacher Confidence</td>
<td>Lecturer</td>
<td>34</td>
<td>13.05 ± 3.07</td>
<td>0.53</td>
</tr>
<tr>
<td></td>
<td>Prof. /Assist Prof./ Assoc. Prof.</td>
<td>6</td>
<td>10.50 ±0.83</td>
<td>0.34</td>
</tr>
<tr>
<td>Improving Teacher Motivation</td>
<td>Lecturer</td>
<td>34</td>
<td>9.50 ±1.94</td>
<td>0.33</td>
</tr>
<tr>
<td></td>
<td>Prof. /Assist Prof./ Assoc. Prof.</td>
<td>6</td>
<td>7.50 ±2.34</td>
<td>0.96</td>
</tr>
<tr>
<td>Teachers Future Needs And Over All Effectiveness Of The Training</td>
<td>Lecturer</td>
<td>34</td>
<td>14.19 ± 3.07</td>
<td>0.53</td>
</tr>
<tr>
<td></td>
<td>Prof. /Assist Prof./ Assoc. Prof.</td>
<td>6</td>
<td>11.83 ± 3.12</td>
<td>1.27</td>
</tr>
<tr>
<td>B. Between Public And Private Sector</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Over All Effectiveness</td>
<td>Public</td>
<td>30</td>
<td>20.66 ± 3.85</td>
<td>0.70</td>
</tr>
<tr>
<td></td>
<td>Private</td>
<td>10</td>
<td>22.50 ± 1.50</td>
<td>0.48</td>
</tr>
<tr>
<td>Building Teacher Confidence</td>
<td>Public</td>
<td>30</td>
<td>12.43 ± 3.16</td>
<td>0.58</td>
</tr>
<tr>
<td></td>
<td>Private</td>
<td>10</td>
<td>13.40 ± 2.36</td>
<td>0.75</td>
</tr>
<tr>
<td>Improving Teacher Motivation</td>
<td>Public</td>
<td>30</td>
<td>8.90 ± 2.15</td>
<td>0.39</td>
</tr>
<tr>
<td></td>
<td>Private</td>
<td>10</td>
<td>10.10 ± 1.72</td>
<td>0.55</td>
</tr>
<tr>
<td>Teachers Future Needs And Over All Effectiveness Of The Training</td>
<td>Public</td>
<td>30</td>
<td>13.50 ± 3.23</td>
<td>0.59</td>
</tr>
<tr>
<td></td>
<td>Private</td>
<td>10</td>
<td>14.60 ± 2.87</td>
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<tr>
<td>C. Gender Wise</td>
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<td></td>
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<tr>
<td>Over All Effectiveness</td>
<td>Male</td>
<td>16</td>
<td>21.12 ± 4.34</td>
<td>1.09</td>
</tr>
<tr>
<td></td>
<td>Female</td>
<td>24</td>
<td>21.12 ± 2.89</td>
<td>0.59</td>
</tr>
<tr>
<td>Building Teacher Confidence</td>
<td>Male</td>
<td>16</td>
<td>12.37 ± 2.62</td>
<td>0.66</td>
</tr>
<tr>
<td></td>
<td>Female</td>
<td>24</td>
<td>12.87 ± 3.24</td>
<td>0.66</td>
</tr>
<tr>
<td>Improving Teacher Motivation</td>
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<td>16</td>
<td>9.43 ± 2.47</td>
<td>0.62</td>
</tr>
<tr>
<td></td>
<td>Female</td>
<td>24</td>
<td>9.04 ± 1.85</td>
<td>0.38</td>
</tr>
<tr>
<td>Teachers Future Needs And Over All Effectiveness Of The Training</td>
<td>Male</td>
<td>16</td>
<td>14.25 ± 2.90</td>
<td>0.73</td>
</tr>
<tr>
<td></td>
<td>Female</td>
<td>24</td>
<td>13.45 ± 3.32</td>
<td>0.68</td>
</tr>
</tbody>
</table>

Use independent sample t-test
P < 0.05 consider the statistically significance
NS: Not statistically significance
DISCUSSION
The outcomes uncovered that the educators in this investigation recognized the preparation program similar to a wellspring of impact for their instructing. This consider which was found that in benefit preparing program were accounted for by the educators to be by a wide margin the greatest wellspring of impact on their choice in instructing, rousing them to change their instructing and convictions. It implies that the instructor in this examination had remarked that they found the experience of going to the preparation program is valuable and enlightening. By and large, the preparation program was low powerful for the educators for being compelling instructors. As indicated by Guskey, the viability of the preparation program should be assessed at five distinct levels:11 members' responses, members' learning, authoritative help and change, members' utilization of new information and aptitudes, and understudy accomplishment. The consequence of the program assessment survey demonstrated that educators responded positively to the preparation program, highlighting numerous positive elements of the encounters. Most of the educators additionally showed (in the assessment of survey and meeting) that they had increased new abilities and information because of taking an interest in the expert advancement. In the xxtterm of the initial two of Guskey's level along these lines, the program seemed to have been sure.12
The fourth level of assessment identified with the instructors' utilization of learning and aptitudes achieved from the expert advancement the detectable changes made to educators' classroom rehearses. As effectively noted, it was over 80% (n=32 of 40 instructors) demonstrated the level of attractive. It can be finished up then that the educators have positive recognitions towards the viability of the preparation program regarding fulfillment. The general adequacy of the preparation program was low successful.13 It implies that the preparation program might be proceeded with on the grounds that the preparation program was low compelling for the educators gaining the aptitudes for being a successful instructor13. The further training project can gain from the preparation that the educators had gone to.15

CONCLUSION
Medical universities should invest lot of money to induct new recruit - Induction program. Training, communication skills knowledge and work motivation in medical teaching is therefore seen as an effective strategy to improve the quality of medical education and clinical supervision, which is also necessary to develop a healthy community.

Recommendations: It is recommended that that kind of training must be conducted in the teaching organization biannually to improve the work motivation amongst the teachers.

Acknowledgments: I would like to acknowledge of the management of medical college(s) / university (ies) located in the Karachi for the permission to conduct this study in their domain.

REFERENCES
Hematological Side Effects of Sofosbuvir and Ribavirin Combination Therapy in Chronic Hepatitis C patients
Waseem Sarwar Malghani¹, Farooq Mohyud Din Chaudhary¹, Asma Tameez ud Din² and Anum Khakwani¹

ABSTRACT

Objective: This study aimed to observe the hematological side effects of sofosbuvir and ribavirin therapy in treatment of chronic hepatitis C (CHC) patients.

Study Design: Descriptive study

Place and Duration of Study: This study was conducted at the Outpatient Department of Gastroenterology, Nishtar Hospital Multan from October 2016 to March 2017.

Materials and Methods: It included 117 treatment naive patients with CHC who were given combination therapy of Sofosbuvir and ribavirin. Patients complete blood picture was sent at the baseline and then repeated at 1 month and at 3 months. Drop in mean of all blood parameters was calculated. Cut-off for Significant Side effects were set as follows: Anemia (Hb<10gm/dL), Leukopenia (<4000 WBCs/mm³), Thrombocytopenia (<100,000 platelets/mm³).

Data was analyzed using the SPSS version 17.

Results: Out of 117 patients, 64 (54.7%) were females and 53 (45.3%) were males. Mean age of patients was 39.28 ± 11.23 years. Mean hemoglobin (Hb), total leucocyte count (TLC) and platelets (PLT) before treatment were 12.51 g/dL, 8.53 x10³ /mcL and 273 x10³ /mcL, respectively. Mean Hb and TLC kept on decreasing as the treatment progressed. The decrease in mean of WBC was statistically significant (p<0.001). Mean platelet count increased at 1 month and decreased at 3 months. Significant side effects were observed as follows: anemia was seen in only 3.4% patients, leukopenia in 2.6% patients and thrombocytopenia in 0.8% patients.

Conclusion: Hematological abnormalities are uncommon in sofosbuvir and ribavirin therapy

Key Words: Hematological side effects, sofosbuvir, ribavirin, chronic hepatitis C, pegylated interferon

INTRODUCTION

Due to high sustained virological response (SVR) rates, sofosbuvir-based regimens are currently a mainstay for hepatitis C virus (HCV) therapies. Chronic hepatitis C virus (HCV) infection affects 3% of the world's population and 1.3% of the United States' population.¹² Prevalence in Pakistan is approximately 4.8% and it is among the highest in the world with approximately 10 million people infected with HCV.⁴⁵ It is a leading cause of chronic liver disease, cirrhosis, and hepatocellular carcinoma (HCC), and is one of the most common causes of liver transplants in the United States.²

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from the Hepatitis Clinic, Outpatient Department of Gastroenterology, NHM from October 2016 to March 2017. The inclusion criteria was all treatment naive patients who had CHC. Patients with Cirrhosis, HCC and those who had both hepatitis B & C were excluded from the study.

Patients were given sofosbuvir plus ribavirin combination. Sofosbuvir was administered orally at a dose of 400 mg once daily along with ribavirin, which was administered orally as a divided dose according to body weight (1000 mg daily in patients with a body weight of <75 kg and 1200 mg daily in patients with a body weight of ≥75 kg).

Patients complete blood picture was sent at the baseline, before the start of treatment and then repeated at 1 month and at 3 months. Mean of the different hematological parameters was calculated. A paired samples t-test was done to compare the differences in mean. A p value <0.05 was considered statistically significant. In our study cut-off values for Significant Side effects were set as follows: Anemia (Hb<10gm/dL), Leukopenia (<4000 WBCs/mm³), Thrombocytopenia (<100,000 platelets/mm³). Data was analyzed using the SPSS version 17.

RESULTS

A total of 117 patients, 64 (54.7%) female and 53 (45.3%) male, with chronic HCV infection were included in the study. The mean age of patients was 39.28 ± 11.23 years with range of 17 to 69 years. Table 1 shows the baseline demographic and clinical characteristic of study population. Mean Hb, TLC and PLT before start of treatment was 12.51 + 1.68 g/dL, 8.53 + 2.27 x10³ /mcL and 275 + 80.0 x10³ /mcL, respectively.

Table II shows the change in means of Hb, TLC and PLT before staring sofosbuvir and ribavirin combination therapy, and then at 1 month and 3 months of treatment. The mean Hb and TLC decreased as the treatment progressed. The mean Hb decreased from 12.5 g/dL at baseline to 12.4 g/dL at 1 month and then 12.3 g/dL at 3 months after starting treatment. TLC decreased from 8.53 x10³ /mcL at baseline to 8.33 x10³ /mcL at 1 month and then 7.31 x10³ /mcL at 3 months of therapy. The mean of PLT showed a small increase at 1 month and then dropped to 273 x10³ /mcL at 3 months. A paired-samples T-test was done to compare the difference in means. There was a statistically significant difference between mean of TLC before starting treatment and at 1 month and 3 months (p<0.001). The difference in means of Hb and PLT, before and after starting treatment, were not statistically significant (p>0.1).

Table No.1: Baseline demographic and clinical characteristic of patients (n=117)

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>n (%)</th>
</tr>
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<tr>
<td>Age (years)</td>
<td>39.28 ± 11.23</td>
</tr>
<tr>
<td>Gender</td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>53 (45.3)</td>
</tr>
<tr>
<td>Female</td>
<td>64 (54.7)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Mean Baseline Hb (g/dL)</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Male</td>
<td>12.51 ± 1.68</td>
</tr>
<tr>
<td>Female</td>
<td>13.4</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Previous Treatment Status</th>
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</tr>
</thead>
<tbody>
<tr>
<td>Treatment naive</td>
<td>117 (100)</td>
</tr>
<tr>
<td>Relapse</td>
<td>0</td>
</tr>
<tr>
<td>Non responder</td>
<td>0</td>
</tr>
<tr>
<td>Partial responders</td>
<td>0</td>
</tr>
</tbody>
</table>

DISCUSSION

In this descriptive study the mean Hb and TLC continued to fall through the course of treatment. The mean decrease in TLC before and after treatment was statistically significant (P<0.001). Our study showed that the mean Hb dropped 0.2g/dL (from 12.5g/dL to
12.3/g/dL) among patients receiving sofosbuvir and ribavirin. While Foster et al found that the median reduction in Hb level at the end of treatment was 2.0 g/dL and 1.8 g/dL, respectively, among patients receiving sofosbuvir and ribavirin for 16 and 24 weeks.15

Pontali et al found anemia (Hb<10g/dL) in 12.9%, neutropenia (<1000 neutrophils/mm³) in 42.8% and thrombocytopenia (<100,000 platelets/mm³) in 39.1% of HIV-HCV co-infected patients undergoing pegylated interferon and ribavirin treatment.16 Our study showed anemia in only 4(3.4%) patients, leukopenia in 3 (2.6%) patients and thrombocytopenia in 1 (0.8%) patient. The severe side effect profile of the above mentioned study was not only due to interferon based therapy but also due to the fact that the sample was co-infected with HIV as well. A local study at Rawalakot on hematological side effects of pegIFN and ribavirin found that the mean Hb and TLC kept on decreasing until 3 months and PLT until 4 months and then improved.19

Discontinuation of treatment in CHC patients due to severe adverse effects in clinical trials was 1 % in sofosbuvir plus RBV groups and 2% in sofosbuvir plus pegIFN and RBV groups.17 In our study there was not a single patient who discontinued treatment due to severe side effects. This clearly shows the safety profile of sofosbuvir and ribavirin combination as compared to pegylated interferon and ribavirin treatment.

In our study 4 (3.4%) patients had a drop in hemoglobin to less than 10 g/dL, but none had hemoglobin less than 8.5 g/dL. This was similar to another study, where four patients, all in the 24-week sofosbuvir plus RBV group, had at least one hemoglobin level of <10 g/dL, but none had hemoglobin <8.5 g/dL.18

The above discussion clearly depicts that sofosbuvir and ribavirin combination is much safer than the pegIFN plus ribavirin or sofosbuvir plus pegIFN and ribavirin combination. Our study had few limitations. We had a small sample size and our sampling method was non-probability sampling.

CONCLUSION

Hematological abnormalities such as a decrease in hemoglobin, leukocytes and platelets are quite uncommon and mild in sofosbuvir and ribavirin therapy, as compared to Interferon based combination therapies.

Author’s Contribution:
Concept & Design of Study: Waseem Sarwar Malghani
Drafting: Anum Khakwani
Data Analysis: Farooq Mohyud Din Chaudhary
Revisiting Critically: Asma Tameez ud Din
Final Approval of version: Waseem Sarwar Malghani

Conflict of Interest: The study has no conflict of interest to declare by any author.

REFERENCES
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Comparison of Primary Success Rate between Pedicled and Propeller Flaps for the Coverage of Tibial Wounds

Kashif Ali¹ and Muhammad Saleem Akhtar²

ABSTRACT

Objective: To compare the primary success rate (flap survival) of pedicled versus propeller flaps for coverage of tibial wounds.

Study Design: Randomized controlled trial study.

Place and Duration of Study: This study was conducted at the Department of Plastic Surgery Sheikh Zaid Hospital, Rahim Yar Khan and Department of Orthopedic Surgery, Quaid-e-Azam Medical College, Bahawalpur from June 2016 to December 2016.

Materials and Methods: A total of 60 patients with tibial wounds (≤ 50 cm²) of ≤ 1 month duration, 15-60 years of age of both genders were included in the study. Patients with chronic osteomyelitis, polytrauma, peripheral vascular disease and ischemic heart disease were excluded. Then selected patients were placed randomly into two groups i.e. Group A (pedicled flap) & Group B (propeller flap). Primary success rate (flap survival) was compared between the both groups.

Results: The mean age of patients in group A was 32.48 ± 10.84 years and in group B was 33.56 ± 10.13 years. Out of 60 patients, 42 (70.0%) were males and 18 (30.0%) were females with male to female ratio of 2.3:1. The mean size of wound in group A was 24.80 ± 10.33 cm² and in group B was 26.48 ± 12.10 cm². The mean duration of wound in group A was 11.88 ± 5.27 days and in group B was 12.72 ± 6.02 days. Primary success rate of Group A (pedicled flap) was 27 (90.0%) while in Group B (propeller flap) was 19 (63.33%) with p-value = 0.013.

Conclusion: This study concluded that primary success rate (flap survival up to 2 months) of pedicled flaps is higher compared to propeller flaps in tibial wounds coverage and should be used routinely in our general practice in order to reduce the morbidity of these particular patients.

Key Words: Tibial, wounds, coverage, flaps, survival

INTRODUCTION

The purpose of lower extremity reconstruction is coverage of open wounds of leg to help individuals a healed wound and to let them return to their routine life. Open wounds and defects in the lower extremity results from tumor resection, trauma, diabetes and peripheral vascular disease. Because of many reasons, these wounds needs re-construction. Firstly, any exposed bone which is not surrounded by vascularized soft tissue is at higher risk of bone necrosis, sepsis and osteomyelitis.¹ ² ³

Due to defects of tissue, poor circulation and inadequate and tight local tissues, management of soft tissue around the lower 3rd of the leg and foot poses a considerable challenge to the re-constructive surgeon.⁴ ⁵ A durable flap having very good texture of skin, good arc rotation arc, reliable vascularity, ease of dissection and minimum morbidity of donor site is the most desired option for the coverage of these defects.⁶

In routine practice, there is a variety of pedicled or muscular flaps for the re-construction of defects of soft tissues of lower limb. These techniques are not used commonly by orthopedic surgeons because of lack of familiarization with these techniques and problems occurred from the donor site.¹ ² ³ Conventional reconstructive options include split skin grafting, local random fasciocutaneous flaps, Ponten’s super flap, cross leg fasciocutaneous flap, pedicled muscular or musculocutaneous flaps, microvascular free tissue transfer or perforator flaps.⁷

After the introduction of microsurgery, transfer of tissue becomes one of the acceptable re-constructive option for the lower limb in the areas where local flaps are not available.⁸ With the development of perforator flaps, newer and more reliable flaps have become available for the re-construction of lower limb.⁹

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Although, perforator propeller flaps are safe, effective and simple, post-operative engorgement does not occur, attractive in shape, and particularly suitable for soft tissue coverage of lower leg and foot defects but pedicled perforator flaps have several obvious advantages over propeller flaps. Additionally, there is no need for special instrumentation and no requirement for transfer of patients to specialist centers. As there was very scarce literature available regarding comparison of primary success rate of tibial wounds coverage by pedicled versus propeller flaps, so the rationale of this study was to compare the primary success rate (in terms of flap survival) of pedicled versus propeller flaps for tibial wounds coverage. Moreover, the results of this study provide us with a better technique for tibial wounds coverage, so that particular technique can be recommended and routinely applied in our clinical practice to attain the better results and reduce patient’s morbidity.

MATERIALS AND METHODS

This randomized controlled trial was conducted at Department of Plastic Surgery Sheikh Zaid Hospital, Rahim Yar Khan and Department of Orthopedic Surgery, Quaid-e-Azam Medical College, Bahawalpur from June 2016 to December 2016 after approval by the institutional review committee and taking written informed consent from every patient. Total 60 patients with wounds (≤ 50 cm²) exclusively involving tibia of ≤ 1 month duration, having age from 15-60 years either male or female were selected. Patients with chronic osteomyelitis, fractures with segmental bone loss, mal-aligned bone fixation patients with polytrauma, patients with peripheral vascular disease and patients of ischemic heart disease were excluded.

All the selected patients were randomly divided into two groups A & B. After a thorough debridement, soft tissue coverage was provided by distally based pedicled flap followed by split skin graft in group A patients while with propeller flaps in group B patients. Post operatively, operated leg was elevated to reduce edema and pain. Flap monitoring was done 2 hourly for first 24-48 hrs for colour, temperature, turgor and edema and pain. Flap monitoring was done 2 hourly for post-operative day. All patients were then followed after one week of discharge and then fortnightly for at least 2 months at which final outcome was recorded. Final success rate in terms of flap survival was noted at the end of 2nd month. Flap survival was deemed as yes if covering flap had survived as a whole without necrosis (wound having dead, discolored and soft tissue with a very foul odor) or dehiscence (opening of wound along surgical site) up to 2 months and deemed as no if there was complete or partial flap necrosis or dehiscence up to 2 months. All the collected data was entered in pre-designed proforma.

Statistical analysis was performed by using SPSS version 20.0. Mean and standard deviation was calculated for age, size of wound and duration of wound. Frequency and percentage was calculated for gender and primary success rate (yes/no). The primary success rate of the two study groups was compared for difference. Chi Square test was applied to compare the primary success rate. P value ≤0.05 was considered as significant. Confounders like age, gender, size of wound, duration of wound were controlled through stratifications and post-stratification chi square was applied to see their effect on outcome. P-value ≤0.05 was taken as significant.

RESULTS

Age range in this study was from 15-60 years with mean age of 33.12 ± 10.39 years. The mean age of patients in group A was 35.48 ± 10.84 years and in group B was 33.56 ± 10.11 years.

Mean size of wound in group A was 25.64 ± 11.16 cm². The mean size of wound in group B was 26.80 ± 10.33 cm² and in group B was 22.10 ± 5.61 cm². Mean duration of wound was 12.22 ± 5.09 days. The mean duration of wound in group A was 11.88 ± 5.27 days and in group B was 11.02 ± 6.02 days.

Primary success rate of Group A (pedicled flap) was 27 (90.6%) while in Group B (propeller flap) was 19 (61.54%). Statistically significant difference of success rate between the both groups was noted with p-value = 0.013. (Table 1)

Patients of both groups were divided into three age groups i.e. age group 15-30 years, age group 31-45 years and age group 46-60 years. In age group 15-30 years, primary success rate was noted in 14 (93.33%) patients and 08 (61.54%) patients of study group A & B respectively. Statistically significant difference of primary success rate between group A and B was noted with p value 0.041. In age group 31-45 years, primary success rate was noted in 10 (90.91%) patients and 06 (66.67%) patients of study group A & B respectively. Statistically insignificant difference of primary success rate between group A and B was noted with p value 0.159. In age group 46-60 years, primary success rate was noted in 03 (75.0%) patients and 03 (60.0%) patients of study group A & B respectively. Statistically insignificant difference of primary success rate between group A and B was noted with p value 0.635. (Table 2)

Primary success rate was noted in 20 (90.91%) male patients of group A and 13 (65.0%) male patients of group B. Difference of success rate between the male patients of both study groups was statistically significant with p value 0.041. In female patients of group A, primary success rate was 07 (87.50%) in female patients of group B, primary success rate was 06 (60.0%) but the difference was statistically insignificant with p value 0.196. (Table 3)
Distribution of patients according to their wound size was done and two groups were made i.e. wound size ≤25 cm² and wound size >25–≤50 cm². In patients with wound size ≤25 cm², primary success rate was noted in 17 (89.47%) patients of group A and 14 (73.33%) patients of group B but the difference was statistically insignificant with p value 0.335. In patients with wound size >25–≤50 cm², primary success rate was noted in 10 (90.91%) patients of group A and 05 (41.67%) patients of group B and the difference was statistically significant with p value 0.013. (Table 4)

Division of patients according to duration of wound was done and two groups was made i.e. ≤15 days group >15–≤30 days group. In ≤15 days group, primary success rate was noted in 19 (95.0%) patients of group A and 18 (81.82%) patients of group B. Statistically insignificant difference of primary success rate between the both groups was noted with p value 0.124. >15–≤30 days group, primary success rate was noted in 08 (80.0%) patients of group A and 01 (12.50%) patients of group B. Statistically significant difference of primary success rate between the both groups was noted with p value 0.036. (Table 5)

Table No.1: Comparison of success rate between both groups

<table>
<thead>
<tr>
<th>Study Group</th>
<th>Primary success rate</th>
<th>P value</th>
</tr>
</thead>
<tbody>
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<td>Yes</td>
<td>No</td>
<td></td>
</tr>
<tr>
<td>A</td>
<td>27 (90)</td>
<td>03 (10)</td>
</tr>
<tr>
<td>B</td>
<td>19 (63.33)</td>
<td>11 (36.67)</td>
</tr>
</tbody>
</table>

Table No.2: Age distribution

<table>
<thead>
<tr>
<th>Age groups</th>
<th>Group A</th>
<th>Group B</th>
<th>P-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Primary success rate</td>
<td>Primary success rate</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>No</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>15-30</td>
<td>14 (93.33%)</td>
<td>01 (6.67%)</td>
<td>08 (61.54%)</td>
</tr>
<tr>
<td>31-45</td>
<td>10 (90.91%)</td>
<td>01 (9.09%)</td>
<td>08 (66.67%)</td>
</tr>
<tr>
<td>46-60</td>
<td>03 (75.0%)</td>
<td>01 (25.0%)</td>
<td>03 (60.0%)</td>
</tr>
</tbody>
</table>

Table No.3: Gender distribution

<table>
<thead>
<tr>
<th>Gender</th>
<th>Group A</th>
<th>Group B</th>
<th>P-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Primary success rate</td>
<td>Primary success rate</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>No</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>Male</td>
<td>20 (90.91%)</td>
<td>02 (9.09%)</td>
<td>13 (65.0%)</td>
</tr>
<tr>
<td>Female</td>
<td>07 (87.50%)</td>
<td>01 (12.50%)</td>
<td>06 (60.0%)</td>
</tr>
</tbody>
</table>

Table No.4: Distribution according to wound size

<table>
<thead>
<tr>
<th>Size of wound</th>
<th>Group A</th>
<th>Group B</th>
<th>P-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Primary success rate</td>
<td>Primary success rate</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>No</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>≤25 cm²</td>
<td>17 (89.47%)</td>
<td>02 (10.53%)</td>
<td>14 (73.33%)</td>
</tr>
<tr>
<td>&gt;25–≤50 cm²</td>
<td>10 (90.91%)</td>
<td>01 (9.09%)</td>
<td>05 (41.67%)</td>
</tr>
</tbody>
</table>

Table No.5: Distribution according to duration of wound.

<table>
<thead>
<tr>
<th>Duration of wound</th>
<th>Group A</th>
<th>Group B</th>
<th>P-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Primary success rate</td>
<td>Primary success rate</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>No</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>≤15 days</td>
<td>19 (95.0%)</td>
<td>01 (5.0%)</td>
<td>18 (81.82%)</td>
</tr>
<tr>
<td>&gt;15–≤30 days</td>
<td>08 (80.0%)</td>
<td>02 (20.0%)</td>
<td>01 (12.50%)</td>
</tr>
</tbody>
</table>

DISCUSSION

There are a number of methods for achieving closure of open tibial fractures, including direct suturing, split-thickness skin-graft, local muscle flap, local fasciocutaneous flap or free vascularized tissue transfer. So, we have conducted this study to compare the primary success rate (flap survival up to 2 months) of pedicled versus propeller flaps for coverage of tibial wounds.

In our study, primary success rate (covering flap had survived as a whole without necrosis (wound having dead, discolored and soft tissue with a very foul odor) or dehiscence (opening of wound along surgical site) up to 2 months) of Group A (pedicled flap) was 27 (90.0%) while in Group B (propeller flap) was 19 (63.33%). Georgescu AV et al.21 has shown success rate of propeller flaps in terms of flap survival as 72% while Tintle SM et al.13 in their study has shown the success rate of pedicled flaps as 97% in soft tissue coverage of distal tibial wounds. In a study done by Zayakova YK et al.14 on 11 pedicled flaps patients, successful results were observed in 10 (83.33%) cases.

In a meta analysis of 50 articles documented success rate of sural flaps as 82%.15 Similarly in an retrospective analysis of sural flap, the rate of complication was 59% (41/70 flaps), partial and complete necrosis in 17% 19% flaps.16
In another study, Akhtar S et al\textsuperscript{17} reported flap survival rate in 78.5% patients, partial and complete necrosis in 16.5% patients and 9.5% patients.

Ashfaq F et al\textsuperscript{18} in their study had used distally based pedicled flap to cover defects of ankle and foot in five cases and a total complication rate of 60% was observed. There was one (20\%) total flap loss and two partial flap necrosis (40\%). Complication rate is similar to Baumeister, SP et al\textsuperscript{19}, who critically examined complications of sural flap in 70 consecutive cases and found 59\% complication rate with 19\% rate of total flap necrosis and 17\% partial flap necrosis. One study from Rawalpindi, Pakistan has compared medial plantar artery flap to sural flap for coverage of heel defects and found former to be better in terms of weight bearing, early mobilization and less complications.\textsuperscript{20} So, on the whole it is concluded that primary success rate (flap survival) of pedicled flaps is higher compared to propeller flaps in tibial wounds coverage and should be used routinely in our general practice in order to reduce the morbidity of these particular patients.

**CONCLUSION**

This study concluded that primary success rate (flap survival up to 2 months) of pedicled flaps is higher compared to propeller flaps for the coverage of tibial wounds. So, we recommend that pedicled flaps should be used routinely in our general practice for coverage of tibial wounds instead of propeller flaps in order to reduce the morbidity of these particular patients.

**Author’s Contribution:**

Concept & Design of Study: Kashif Ali

Drafting: Kashif Ali

Data Revisiting: Muhammad Saleem Akhtar

Revisiting Critically: Muhammad Saleem Akhtar

Final Approval of version: Kashif Ali

**Conflict of Interest:** The study has no conflict of interest to declare by any author.

**REFERENCES**


17. Akhtar S, Hameed A. Versatility of the sural artery flap to sural flap for coverage of heel defects and should be used routinely in our general practice in order to reduce the morbidity of these particular patients.


Diagnostic Utility of FNAC and Pathological Profile of Head and Neck Lesions

Nazar Muhammad Afridi, Mohammad Umar Shah, Syed Irfan Raza Arif, Muhammad Usman Anjum and Arshad Wahab Shah

ABSTRACT

Objective: To study the diagnostic yield of FNAC when compared with histopathology and to determine the pathological spectrum of head and neck lesions in our region.

Study Design: Cross-sectional study

Place and Duration of study: This study was conducted at the Department of Pathology, Frontier Medical & Dental College, Abbottabad from January 2016 to April 2017.

Materials and Methods: A total of 150 patients with superficial and palpable head & neck swelling underwent fine needle aspiration and cytology using standard protocol.

Results: Out of 150 patients, there were 84 males and 66 females with male to female ratio of 1.27:1. Mean age was 35±17.42 years. Most of the patients, 77.33%, were between the ages of 21-60 years. As per the site of involvement, most of the lesions, 40%, occurred in lymph nodes followed by salivary glands, 30% cases, and cystic, soft and other tissues, 30% cases. The most common benign lesion involving lymph nodes was tuberculosis while most common malignant lesion involving lymph nodes was metastatic deposits in lymph nodes. In case of salivary glands, the most common benign lesion was pleomorphic adenoma while most common malignant lesion was mucoepidermoid carcinoma. Among benign lesions, lipoma was observed in majority of cases involving cystic, soft and other tissues while among malignant lesions, metastatic squamous cell carcinoma was most common. When compared to histopathology, the overall sensitivity and specificity of FNAC was 73% and 93% in the diagnosis of head and neck lesions. In case of salivary gland lesions, sensitivity and specificity of FNAC was 65% and 89% while it was 72% and 95% in case of lymph node lesions and 84% and 100% respectively in case of cystic, soft tissue and other tissue lesions.

Conclusion: Head and neck region encompasses a diversified range of diseases ranging from inflammatory to malignant ones. Accurate diagnosis of these lesions is very important for their successful treatment. FNAC is a safe, reliable, convenient and minimally invasive procedure which can be done on out-patient basis. It provides accurate information in most cases which in turn helps in making treatment decisions as it ascertains the type of lesion.

Key Words: Salivary gland, Head and neck, FNAC

INTRODUCTION

Head and neck lesions are quite common in clinical practice. These lesions include both benign and malignant conditions. Benign conditions include infections, reactive lymph node hyperplasia, etc while malignant lesions could be primary and secondary. Primary malignant lesions are the ones which develop primarily in this area while secondary malignant lesions are the ones which usually metastasize to this area. Malignant head and neck lesions are rated 10th most common cancers globally. Definitive management of these lesions depends upon accurate diagnosis of these lesions. Diagnosis is usually made on clinical grounds and confirmed through laboratory investigations. Most appropriate laboratory investigation for such lesion should be the one which is cost-effective, easy to perform, can be done on out-patient basis and minimally invasive. Fine needle aspiration and cytology (FNAC) is one of such laboratory investigations which fulfill these criteria. It is simple, yet cheap, can be done on out-patient basis and minimally invasive. FNAC is specifically important in clinical settings where facilities or expertise for histopathological examination are either not available or lacking. We have conducted this clinical study to determine the pathological profile of head and neck lesions as well as...
determine the diagnostic yield of FNAC when compared with histopathology.

MATERIALS AND METHODS

This cross-sectional study was conducted in the Department of Pathology, Frontier Medical & Dental College, Abbottabad, from January 2016 to April 2017. This was a convenience non-probability sampling. All those patients who had a superficial and clinically palpable swelling in head and neck area, of both genders and all ages were included in the study. Patients with thyroid lesions, or those with history of bleeding disorders, or who had been diagnosed with a malignancy in head and neck region or those who were unwilling for FNAC and biopsy were excluded from the study. Informed consent was taken. A structured performa was used to record history, especially related to the swelling and history of tuberculosis in family, systemic and local examination findings. FNAC was done using 22 to 23 gauge needle attached to a 10 ml syringe under strict aseptic conditions. The material was aspirated under negative pressure and then smeared on atleast two slides which were later air-dried or wet fixed and then, stained with Giemsa and Papanicolaou stains. Zeihl Neelsen stain was used when tuberculosis was suspected or lymph node aspirate was purulent or cheesy. Biopsy specimens from these patients for histopathological examination were processed after fixing them in 10% formalin. They were stained using Haemotoxylin and Eosin stain. Special stains were used as and when required.

Data was recorded, managed and analyzed using Statistical package for social sciences (SPSS, version 21).

RESULTS

There were 150 patients in this study. There were 84, (56%) males and 66, (44%) females with male to female ratio of 1.27:1. Mean age was 35±17.42 years. Age-wise stratification of study population is given in Table 1. Most of the patients, 77.33%, were between the ages of 21-60 years, showing higher predilection for this age group.

Table No.1. Age-wise stratification of study group, (n =150)

<table>
<thead>
<tr>
<th>Age group</th>
<th>Number</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Less than 20 years</td>
<td>24</td>
<td>16%</td>
</tr>
<tr>
<td>21 – 40 years</td>
<td>68</td>
<td>45.33%</td>
</tr>
<tr>
<td>41 – 60 years</td>
<td>48</td>
<td>32%</td>
</tr>
<tr>
<td>&gt; 60 years</td>
<td>10</td>
<td>6.67%</td>
</tr>
<tr>
<td>Total</td>
<td>150</td>
<td>100%</td>
</tr>
</tbody>
</table>

As per the site of involvement, most of the lesions, 40%, occurred in lymph nodes followed by salivary glands, 30% cases, and cystic, soft and other tissues, 30% cases, as shown in Table 2.

Table No.2: Stratification of cases according to their site and malignant potential, (n=150)

<table>
<thead>
<tr>
<th>Site</th>
<th>Malignant Lesions (n, %age)</th>
<th>Non malignant lesions (n, %age)</th>
<th>No, %age</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lymph node lesions</td>
<td>28, 18.67%</td>
<td>32, 21.33%</td>
<td>60, 40%</td>
</tr>
<tr>
<td>Cystic, soft and other tissue lesions</td>
<td>14, 9.33%</td>
<td>31, 20.67%</td>
<td>45, 30%</td>
</tr>
<tr>
<td>Salivary gland lesions</td>
<td>15, 10%</td>
<td>30, 20%</td>
<td>45, 30%</td>
</tr>
<tr>
<td>Total</td>
<td>57, 38%</td>
<td>93, 62%</td>
<td>150, 100%</td>
</tr>
</tbody>
</table>

Table No.3: Stratification of head and neck lesions, (n=150)

<table>
<thead>
<tr>
<th>Type of Lesions</th>
<th>Number, (%age)</th>
<th>Malignant lesions</th>
<th>Number, (%age)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lymph node lesions</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tuberculosis</td>
<td>29, (19.33%)</td>
<td>Metastatic deposits</td>
<td>16, (10.66%)</td>
</tr>
<tr>
<td>Reactive hyperplasia</td>
<td>03, (2%)</td>
<td>Hodgkin’s lymphoma</td>
<td>08, (5.33%)</td>
</tr>
<tr>
<td>Non-Hodgkin’s lymphoma</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Salivary gland</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pleomorphic adenoma</td>
<td>25, (16.66%)</td>
<td>Mucoepidermoid carcinoma</td>
<td>09, (6%)</td>
</tr>
<tr>
<td>Sialadenitis</td>
<td>05, (3.33%)</td>
<td>Squamous cell carcinoma</td>
<td>03, (2%)</td>
</tr>
<tr>
<td>Sialadenitis</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cystic, soft and other tissues</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lipoma</td>
<td>12, (8%)</td>
<td>Metastatic squamous cell carcinoma</td>
<td>12, (8%)</td>
</tr>
<tr>
<td>Epidermal cyst</td>
<td>09, (6%)</td>
<td>Small round cell tumor</td>
<td>02, (1.33%)</td>
</tr>
<tr>
<td>Schwannoma</td>
<td>05, (3.33%)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cystic hygroma</td>
<td>03, (2%)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Thyroglossal cyst</td>
<td>01, (0.66%)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hemangioma</td>
<td>01, (0.66%)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

The most common benign lesion involving lymph nodes was tuberculosis, (29 cases), while most common malignant lesion was metastatic deposits in lymph nodes, (16 cases), followed by Hodgkin and non-Hodgkin lymphoma in 08 and 04 cases respectively.
In case of salivary glands, the most common benign lesion was pleomorphic adenoma, (25 cases), while most common malignant lesion was mucoepidermoid carcinoma, (09 cases). Similarly, among cystic, soft and other tissues lesions, the most common benign lesion was lipoma, (12 cases), while most common malignant lesion was metastatic squamous cell carcinoma, (12 cases), as shown in Table 3.

When compared to histopathology, the overall sensitivity and specificity of FNAC was 73% and 93% in the diagnosis of head and neck lesions. In case of salivary gland lesions, sensitivity and specificity of FNAC was 65% and 89% while it was 72% and 95% in case of lymph node lesions and it was 84% and 100% respectively in case of cystic, soft tissue and other tissue lesions.

DISCUSSION

There are wide variety of lesions in head and neck region associated with anatomical structures present in this region i.e. lymph nodes, thyroid, salivary glands, etc. These lesions range from inflammatory to malignant ones. Careful and accurate diagnosis of these lesions is pivotal in their treatment.

Out of 150 cases in our study, there were 56% males and 44% females. In their study which was conducted in Nepal, Pathak et al have reported the same. There were 55.5% males and 44.5% females. Similarly, Sharma et al have also reported male preponderance in their Indian subjects where 57.93% of their study subjects were male and 42.07% were female. Metrics of patients, 77.33%, in our study were between the age of 21-60 years. Similarly, as reported by Rathore et al, majority of their Indian patients were between second and sixth decade of life. As per the site of involvement, most of the lesions in our study occurred in lymph nodes followed by salivary glands and cystic, soft and other tissues which were 35 cases in each group respectively. This finding corroborated with other studies. Pathak et al have reported that lymph nodes followed by soft tissue and salivary glands were primarily involved in their Nepalese subjects.

Likewise, in another study conducted by Rajbhandari et al in Nepal, lymph nodes were predominantly involved in 45% of cases. Singal et al conducted their study in India. The major site of involvement in their study was lymph nodes which were involved in 48.09% of cases. Similarly, in another study conducted in India by Kate et al, lymph nodes were involved in 51.5% of cases.

In our study, the most common benign lesion involving lymph nodes was tuberculosis, (29 cases, 19.33%), while most common malignant lesion found was metastatic deposits in lymph nodes, (16 cases, 10.66%). Similar to our study, a study conducted in Peshawar, Pakistan, by Ahmad et al have shown that the most common benign and malignant lesions involving lymph nodes were tuberculous lymphadenitis and metastasis to lymph nodes respectively. Correspondingly, Rathore et al have found out that tuberculosis was the main etiological agent of lymph node swelling while metastatic squamous cell carcinoma was the commonest malignant lesion involving lymph nodes.

Likewise, Kate et al have also reported the same with tuberculous lymphadenitis being the commonest benign lesion and metastasis being the commonest malignant lesion involving lymph nodes. Sharma et al have also reported that the most common lesion affecting lymph nodes was tuberculosis. Similarly, in another Indian study conducted by Khetrapal et al, tuberculosis was reported to be the major cause involving lymph nodes in 23.3% cases.

In case of salivary glands, the commonest benign lesion was pleomorphic adenoma followed by salivary glands, while commonest malignant lesion involving lymph nodes was mucoepidermoid carcinoma. Our findings were consistent with other studies. Chauhan et al, Fernandes et al, Sharma et al and Singal et al also reported that the pleomorphic adenoma and mucoepidermoid carcinoma were the most common benign and malignant lesions affecting salivary glands in their Indian patients. Similarly, Kate et al and Khetrapal et al have also reported that pleomorphic adenoma was the commonest benign lesion affecting salivary glands in their study.

In case of cystic, soft and other tissues lesions, lipoma, (08% cases, 08%), was the most common benign lesion while metastatic squamous cell carcinoma, (12 cases, 08%), was the most common malignant lesion. Similar results were found in other studies. Khetrapal et al have reported that the most common benign lesion involving cystic and soft tissue was lipoma which was observed in 14 cases while squamous cell carcinoma was observed in one case. Kate et al also reported that most common benign lesion affecting soft and other tissues was lipoma, 22.2%.

When compared to histopathology, the overall sensitivity and specificity of FNAC in diagnosing head and neck lesions was 73% & 93% respectively. Among Nepalese subject. Rajbhandari et al have reported the sensitivity and specificity of this procedure to be 86% and 97% respectively. Similarly, among Indian patients, overall sensitivity and specificity of FNAC was reported to be 93.24% and 100% by Khetrapal et al. Fernandes et al reported the overall sensitivity and specificity of FNAC to be 87.5% and 100% respectively while Singal et al have found that the sensitivity and specificity were 91.54% and 98.16% respectively. This discrepancy in results could be due to the fact that FNAC is a blind procedure and can lead to insufficient or improper sample. Similarly, mixing of samples with macrophages or lymphoid tissue can lead to incorrect results on FNAC which histopathology can later confirm.
CONCLUSION

Head and neck region encompasses a diversified range of diseases ranging from inflammatory to malignant ones. Accurate diagnosis of these lesions is very important for their successful treatment. FNAC is a safe, reliable, convenient and minimally invasive procedure which can be done on out-patient basis. It provides accurate information in most cases which in turn helps in making treatment decisions as it ascertains the type of lesion.

Author’s Contribution:
Concept & Design of Study: Nazar Muhammad Afridi
Drafting: Mohammad Umar Shah
Data Analysis: Muhammad Usman Anjum, Syed Irfan Raza Arif
Revisiting Critically: Arshad Wahab Shah
Final Approval of version: Nazar Muhammad Afridi

Conflict of Interest: The study has no conflict of interest to declare by any author.

REFERENCES

Comparison of Biometry Readings Taken by Intra Ocular Lens (IOL) Master and Sonomed in the Pakistani Population
Abdul Rasheed Khokar¹, Nargis Nizam Ashraf¹ and Mehwish Hussain²

ABSTRACT

Objective: To compare the Keratometry (K) readings, axial length and posterior chamber (PC) intraocular lens power taken by IOL master and Sonomed in the Pakistani population.

Study Design: Comparative / cross-sectional study

Place and Duration of Study: This study was conducted at the Department of Ophthalmology Unit 2, Dow University of Health Sciences, Karachi from 1st March 2017 to 31st May 2017.

Materials and Methods: Keratometry readings was recorded in two meridians, horizontal (K1) and vertical (K2) axes, axial length of the eye was measured and posterior chamber intraocular lens (PC IOL) power was recorded by IOL Master and Sonomed in 74 eyes.

Results: The mean K1 of the study group with IOL Master and Sonomed were respectively 43.6±1.9mm and 43.5±1.9mm and the mean K2 were 44.5±2mm and 44.6±2mm respectively. No significant differences were observed in the measurements of K1 (p value >0.160) and K2 (p value >0.704). The mean axial length with IOL master was 23.2±0.9mm and was significantly lower than corresponding measurement with Sonomed, 23.3±0.9mm (P<0.001). The PC IOL power recorded with IOL Master (21.5±2.2mm) was significantly higher than that with Sonomed (21.1±2.4mm) (P <0.001).

Conclusion: The mean axial length measurement was significantly lower when recorded with IOL master and PC IOL power was significantly higher as compared to Sonomed. There was no significant difference in the mean K1 and K2 measurement when recorded with the two methods.

Key Words: Biometry, axial length, IOL master, Sonomed

INTRODUCTION

Amongst the different types of eye surgeries, cataract extraction leads the list. With the passage of time and the refinement of technique, the outcome of cataract surgery has improved considerably and so have the expectations of the patients. Precise biometry and calculation of Intraocular lens (IOL) power are essential for good outcome¹.

As the newer and better types of intraocular lenses have been developed, the techniques of biometry have also changed in the recent years. Amongst the different methods, there is A-Scan Biometry which employs the principle of echo delay time.

The Intraocular lens (IOL) master is another tool of measurement of axial length and is based on the principal of partial coherence interferometry².

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Anterior chamber (AC) depth assessment is also very important as it is needed in the biometric formulae. New techniques for AC depth measurement are scanning-slit topography, anterior segment optical coherence tomography (OCT) and Scheimpflug imaging technique³. In case there are opacities in the media or if there is dense cataract, the ultrasound methods show better results.⁴

Biometric measurements have to be very precise. A 0.25 D error can occur with 0.1 mm incorrect measurement of axial length. Similarly, 1.25 D error from 0.5 mm difference and 2.50 D error results from 1.0 mm difference.⁵ The data is then fed into IOL calculation formulae, many have been made. At first were the third generation formulas and then came the fourth generation formulas.⁶,⁷,⁸

IOL master incorporates infra-red light of the twin beam. Ultrasound waves reflect at the level of the internal limiting membrane as opposed to the partial coherence laser interferometry in which laser light is reflected from the retinal pigment epithelium.⁹ To make results from both the machines reliable, a conversion factor is put in the software of the instrument. IOL Master is a non touch technique and is the preferred method. However it does not give reliable results where there are opacities in the media where Sonomed is the preferred choice.
This study has been conducted to compare the K-readings, axial length and IOL power measurements taken by the IOLmaster and Sonomed in the Pakistani population and to see which one of the two is a better technique.

MATERIALS AND METHODS

This study was conducted over a period of 3 months at the Diagnostic Section of the Department of Ophthalmology, Unit II, of Dow University of Health Sciences from 1st March 2017 to 31st May 2017. Recordings were made in 74 consecutive patients undergoing cataract surgery. An informed consent was taken prior to inclusion in the study. Axial length measurement, K-readings and IOL power was taken both by IOL master (NIDEK) and Sonomed in 74 eyes. Keratometry was performed in the horizontal (K1) and vertical (K2) meridian. Axial length was measured and Intraocular lens power was calculated both by IOL Master and Sonomed. Prior to axial length measurement by Sonomed, eye was anaesthetised with topical anaesthetic drops. Three readings were taken for each parameter and the mean was calculated. The data was then entered into Microsoft excel and subsequently transferred to SPSS for analysis.

**Statistical analysis:** Frequencies and percentages were computed for the description of gender and eye. Descriptive statistics of continuous variables such as age, keratometry measures, axial length and PC IOL were expressed with mean ± standard deviation. Before proceeding comparative analysis, normality of the continuous variables was assessed by Kolmogrov-Smirnov’s test and outcome exhibited p values more than 0.05 indicating fulfillment of normality assumptions for all the continuous variables. Comparative analysis was divided into two steps as univariable and multivariable. At univariable stage, to compare biometry readings using IOL master and sonomed paired samples t-test was run. While to compare these readings with respect to gender and eye, independent samples t-test was executed. Pearson’s correlation coefficient was measured to determine association of age with biometry readings. At multivariable stage, repeated measures ANOVA was used to compare biometry readings with the two diagnostic methods while confounding with personal characteristics like gender and age.

RESULTS

Out of total 74 patients, 35 (47.3%) were female. Nearly half of the patients of left eye was used for the diagnosis. The average age of the participant was 54.9±14.2 years. The mean K1 of the overall sample with IOL master and sonomed were respectively 43.6±1.9mm and 43.5±1.9mm. While the mean K2 were 44.6±2mm and 44.3±2mm which measured using IOL master and sonomed respectively. No significant differences were observed in the measurements of K1 (P=0.160) and K2 (P=0.704). Axial length with IOL master was 23.2±0.9mm and significantly lower than measured with sonomed 23.3±0.9mm (P<0.001). The PC IOL Power using IOL master (21.1±2.4mm) was significantly higher than diagnosed with sonomed (21.1±2.4mm) (P=0.001).

<table>
<thead>
<tr>
<th>Table No.1: Biometry readings between gender and eye</th>
<th>Keratometry (k1)</th>
<th>Keratometry (k2)</th>
<th>Axial length</th>
<th>PC IOL</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender F (n=35)</td>
<td>43.6±1.9</td>
<td>44.5±2.0</td>
<td>23.2±0.8</td>
<td>21.5±2.2</td>
</tr>
<tr>
<td>Gender M (n=39)</td>
<td>43.1±2.0</td>
<td>44.4±2.2</td>
<td>23.5±0.9</td>
<td>21.4±2.3</td>
</tr>
<tr>
<td>Eye L (n=36)</td>
<td>43.5±2.0</td>
<td>44.5±2.0</td>
<td>23.2±0.9</td>
<td>21.5±2.2</td>
</tr>
<tr>
<td>Eye R (n=38)</td>
<td>43.6±1.8</td>
<td>44.6±2.0</td>
<td>23.2±0.8</td>
<td>21.5±2.2</td>
</tr>
<tr>
<td>Overall (n=74)</td>
<td>43.6±1.9</td>
<td>44.5±2.0</td>
<td>23.2±0.9</td>
<td>21.5±2.2</td>
</tr>
</tbody>
</table>

Table 1 described the biometry readings between gender and eye. Among females, the mean K1 using IOL master was significantly higher (P=0.034) as compared to males. However, no significant difference was found in K2 readings between male and female when measured with IOL master (P=0.343). Axial length (P=0.001) and PC IOL power (P=0.010) were significantly higher in males when diagnosed with IOL master. While diagnosing biometry readings using sonomed K1 measure (P=0.039) and PCL IOL (P=0.043) of female and axial length of male (P=0.005) were significantly higher. On the other hand, no significant difference in the mean values of K1 was found when measured with sonomed (P=0.351). Moreover, the biometry readings did not show significant difference in left and right eyes either diagnosed with IOL or sonomed (all P values >0.05). The correlations of age with all biometry readings were insignificant except with the PC IOL. The higher age of the patients depicted lower values of PC IOL when measured with both IOL master (r= -0.297) and sonomed (r= -0.258).
After confounding for gender the K1 did not show significant difference in readings from PC IOL and Sonomed (P=0.159). However, axial length (P<0.0001) and PC IOL (P=0.001) showed significant difference in the readings from IOL master and Sonomed. The readings of PCL IOL using IOL master and Sonomed did not exhibit significant difference when adjusted for only age (P=0.251) and for both age and gender simultaneously (P=0.323).

**DISCUSSION**

Partial coherence interferometry is being incorporated in different devices since 2001 for Biometry. The reason for it’s popularity is that it’s non-contact, less time consuming and accurate.

Several studies have been conducted, comparing the different biometric techniques for measurement of these parameters. In our study we have compared the K-readings, axial length and IOL power taken by IOL master and Sonomed (Ultrasonic method) in the Pakistani population. Although similar study has been done elsewhere, there is little data for the Pakistani population.

Jaswinder et al reported a favourable comparison and same values between Lenstar and IOL master but not with ultrasound biometry. In IOL master, the measurement is between anterior corneal surface and retinal pigment epithelium, whereas in ultrasound biometry it is the internal limiting membrane.

In 2016, Kongsap reported good comparison between axial length, anterior chamber depth and k-readings between IOL master and a new optical low coherence reflectometer. But comparison wasn’t good enough for White to white diameter (r=0.259). In our study K readings were the same with both machines, but axial length was significantly lower and PC IOL power was significantly higher with IOL master.

Nakwi documented in 2014 a conversion factor for the IOL master and ultrasound biometry. With diminution of wavelength, the results are better and there are better results with laser interferometry because of smaller wavelength.

In certain scenarios such as hard cataracts, hazy media corneal degeneration etc. Ultrasonic biometry in conjunction with laser interferometry is needed. It was reported by Hitzenberger et al that as compared to immersion, axial length by IOL master came out to be 0.18 mm more. Whereas, this difference between the two methods was about 0.22 mm as documented by Kiss et al.

In a study by Honkanen et al in 2013 documenting residents training about 50% cases were within 0.50 DS of the expected result.

Shin, Lee et al in 2012, compared the pre and post-operative ocular biometry in eyes with phakic intraocular lens implants. The anterior chamber depth was 1 mm shallower post operatively after putting in an ins fixated IOL. It was seen that the effective measure of axial length by silicon oil is less impaired in doing it with IOL master.

Kunert, Peter et al compared biometry done with new swept source OCT biometer and partial coherence interferometry and optical low coherence reflectometry. There was a good comparison with SS-OCT giving the most reliable results. Mehrawaran et al performed it with 5 types of devices and showed a good co relation between them.

**CONCLUSION**

In conclusion, the mean axial length measurement was found to be significantly lower when recorded with IOL master and PC IOL power was significantly higher as compared to Sonomed. There was no significant difference in the mean K1 and K2 measurement when recorded with the two methods. Therefore both machines have to be used in conjunction for measurement of axial length and PC IOL power but either one can be used for keratometry.

**REFERENCES**

Comparative Efficacy of Trimetazidine and Ranolazine in Patients with Angina
Khalil-ur-Rehman, Muhammad Amer Saeed, Tayyaba Gull, and Muhammad Jahanzeb Khalil

ABSTRACT

Objective: To determine the relative efficacy of two newly available metabolically active drugs Trimetazidine and Ranolazine in a subset of patients whose angina symptoms were not ameliorated with optimum dose of conventional anti-anginal medications (B-Blockers, Calcium Channel Blockers and Nitrates), as further increment in their dosage was detrimental for the rate pressure product.

Study Design: Prospective / Descriptive / cross sectional study

Place and Duration of Study: This study was conducted at the Cardiology Department, DHQ Teaching Hospital Dera Ghazi Khan from November 2016 to December 2016.

Materials and Methods: A total of 106 patients with symptomatic angina from Dera Ghazi Khan urban area were divided into two equal groups each consisting of 53 patients. In group I Trimetazidine and in group II Ranolazine was added in addition to their routine optimum treatment. They were evaluated after six weeks through a questionnaire for angina symptoms.

Results: The relief of anginal symptoms was 39.6% in group 1 (Trimetazidine group) while it was 67.9% in group II (Ranolazine group).

Conclusion: The Ranolazine is more effective in controlling the angina symptoms as compared to Trimetazidine as early as six weeks.

Key Words: Chronic Angina, Trimetazidine, Ranolazine

INTRODUCTION

Chronic angina is a debilitating illness with annual mortality of 1.6% to 3.2%. Anginal episodes are most experienced in about 26% of the patients despite receiving optimum anti-anginal therapy or have undergone percutaneous or surgical revascularization procedures. Among these patients many are not suitable candidates for further revascularization or cannot tolerate additional use of B-Blockers or calcium channel blockers as it adversely affects the rate pressure product (double product). Trimetazidine or Ranolazine donnot significantly alter the double product and are beneficial for many patients particularly those who cannot tolerate further reduction of the double product.\(^3,4\)

Trimetazidine is partial inhibitor of oxidation of free fatty acids and shifts ischemic myocytes oxidation to use more carbohydrate than fatty acids as carbohydrate’s faster metabolism needs less energy than fat metabolism. It is a well-tolerated drug without any absolute contra indications.\(^8,10\)

The proposed anti-ischemic mechanism of Ranolazine is that it inhibits late sodium inward current. The late sodium current channels are upgraded during ischemia and heart failure\(^5\). Activation of these channels causes increased sodium influx into myocytes thereby the activation of sodium calcium mechanism increases intra cellular calcium which can lead to metabolic, functional and electrical dysfunction. So Ranolazine attenuates the adverse effect of calcium over load and improves myocardial mechanical, electrical and metabolic function.\(^3\) The metabolic efficacy of Ranolazine for less ischemia has been demonstrated in a study named “Acute Coronary Syndrome-Thrombolysis in Myocardial Infarction, (MERLIN-TIMI 36)” trial in which 6,560 patients were randomized to receive either placebo or Ranolazine.\(^4\) The result showed treatment with Ranolazine was associated with significantly less episodes of recurrent myocardial ischemia, non sustained VT and pre mature ventricular ectopics. MARISA trial (mono therapy assessment of Ranolazine with stable angina) was a placebo control trial which documented the role of Ranolazine in patients with stable angina.\(^6,7\)
MATERIALS AND METHODS

Patients of Dera Ghazi Khan urban area who were diagnosed cases of angina and complaining of increase in frequency of chest pain for the last 3 to 4 months were evaluated through a questionnaire.

Characters of chest pain
- Number of episodes/week after walking one block
- Number of sublingual tablets used to relive pain
- Duration of chest pain
- Use of medicine

ECG, CBC, CUE, Renal parameters and Chest X-Ray were obtained for every patient.

On clinical evaluation pulse, B.P, temperature and respiratory rate was noted along with the examination of cardiovascular system. In this way 106 male patients were enrolled and divided into two groups each consisting to 53 patients. Group 1 patients were given Trimetazidine 35mg twice daily while patients of Group 2 were given Ranolazine 750mg as an add on therapy. Both groups were having diabetic patients 25 in Trimetazidine group while 26 in Ranolazine group. The average blood sugar was 210 ± 8 in both groups.

The common medicines used by both groups are given below:

- Tab. Isorbide5-Mononitrate 60mg x OD/Isosorbide mononitrate 20mg x BID
- Tab. Metoprolol 100mgxOD/ Atenolol 50mg OD/ Bisoprolol 5mg to 7.5 mg x OD
- Tab. Diltazem 60mg x TID/sustained release preparation 60mg BID
- Aspirin 75mg to 150mg OD
- Clopidogrel 75mg to 150mg OD
- Statin 10mg to 20mg OD

With these medications the titrated heart rate was around 50 beats per minute and blood pressure was around 100/70 mmHg.

RESULTS

After six weeks patients were evaluated for number of anginal episodes by a cardiologist who was blinded to the treatment regime and results are given below:

In Trimetazidine group, 3 patients got 100% relief (no angina episode in a week) while in 7 patients got 75% relief (1 episode in a week). 50% (2 episodes) relief was noted in 4 patients and 25% (3 episodes) relief was noted in 6 patients. 33 patients experienced no relief of their angina symptoms.

In Ranolazine group, 9 patients got 100% relief (no angina episodes) while 75% (1 episodes) relief was noted in 18 patients. 50% (2 episodes) relief in 10 patients while 4 patients had only 25% (3 episodes) relief.

Table 1 shows the detail of relief of angina episodes in both groups.

<table>
<thead>
<tr>
<th>Percentage relief of angina episodes per week</th>
<th>Trimetazidine Group I (n=53)</th>
<th>Ranolazine Group II (n=53)</th>
</tr>
</thead>
<tbody>
<tr>
<td>100%</td>
<td>3 (5.6%)</td>
<td>9 (16%)</td>
</tr>
<tr>
<td>75%</td>
<td>7 (13.5%)</td>
<td>18 (33.9%)</td>
</tr>
<tr>
<td>50%</td>
<td>4 (7.5%)</td>
<td>10 (18%)</td>
</tr>
<tr>
<td>25%</td>
<td>6 (11.3%)</td>
<td>4 (7.5%)</td>
</tr>
<tr>
<td>0%</td>
<td>33 (62.24%)</td>
<td>12 (22.6%)</td>
</tr>
</tbody>
</table>

DISCUSSION

The management of patients with angina who are already on optimally titrated doses of nitrates, beta blockers and/or calcium channel blockers is challenging as further reduction in rate pressure products may be detrimental. So far them surgical revascularization or another alternative approach should be used. Courage trial included a large population with stable angina who were randomized to optimum medical management with or without PCI. There was no difference in cumulative rate of death and MI after 4.6 years. However in their management currently available metabolically active drugs like Trimetazidine, Ranolazine, Perhexilline and Ivabradine were not used. These metabolic drugs do not alter the rate pressure product and relieve angina by shifting cardiac myocytes metabolism from fatty acids to carbohydrate. 10-15

Diagram 1 shows the mechanism of action of various metabolically.

Normally fatty acid oxidation is the major source of energy for myocardium up to 80% while glucose metabolism provides remaining quantity of energy. At rest, heart uses 15 to 20% of its maximum oxidative capacity while during ischemia this stressed myocardium surpasses its metabolic reserve and an aerobic limit is reached as a consequence anaerobic metabolism begins with further decline in ventricular
We compared two metabolically active drugs (Trimetazidine and Ranolazine) whose efficacy is documented in various clinical trials that which drug is relatively more effective in our subset of patients and may be added first to standard regimen to save the money of the patients. The literature revealed that the combination of Ranolazine when added to CCB’s, BB’s shows positive outcomes across all outcomes assessed while Trimetazidine when added to CCB’s shows significant benefits for most but not for all outcomes. A prospective double blind study of 53 males with chronic angina were randomized to 12 weeks treatment of either Trimetazidine or Ranolazine and were assessed for flow mediated endothelium dependent or nitroglycerin induced dilatation of brachial artery using high resolution ultrasound. The results indicated that both drugs were effective in producing brachial artery dilatation in almost similar manner though Trimetazidine has better effect on flow dependent dilatation. While our study revealed better control of angina in patients who were using Ranolazine in addition to their standard anti-anginal regimen than those to whom Trimetazidine was given in addition to their anti-anginal medication (67.9% vs 39.6%) over a period of six weeks while all other studies were conducted for 12 weeks or more. However absolute relief was only in (16% vs 5.6%). There were no significant side effects in both groups, except complaint of dizziness in two patients taking Ranolazine. Better results of our study may be attributed to the use of long acting nitrate in both groups and almost 50% of the patients in both groups were diabetics with suboptimal glycemic control as the TERISA study reveals that Ranolazine reduced frequency of anginal episodes in patients with higher Hb A1C value. TERISA study also revealed that Ranolazine slowed the progression to overt diabetes. Optimization of anti-anginal treatment with the help of Ranolazine and Trimetazidine may provide the result beyond what is documented in COURAGE trial and wide availability of both drugs need further studies to evaluate their full therapeutic benefits.

CONCLUSION

The Ranolazine is more effective in controlling the angina symptoms as compared to Trimetazidine as early as six weeks.

Author’s Contribution:
Concept & Design of Study:  Khalil-ur-Rehman
Drafting:  Khalil-ur-Rehman
Data Analysis:  Muhammad Jahanzeb Khalil
Revisiting Critically:  Tayyaba Gull,
Muhammad Amer Saeed
Final Approval of version:  Khalil-ur-Rehman

Comparing the Effectiveness of Lisinopril and Losartan Potassium in Treatment of Microalbuminurea in Newly Diagnosed Type II Diabetes Mellitus

Shabnam Seher, Arooj Iqbal and Tayyuba Irum

ABSTRACT

Objective: is to compare effectiveness of Lisinopril (ACE inhibitor) and Losartan Potassium (ARB) in treatment of microalbuminurea in newly diagnosed Type II DM patients in terms of reduction in microalbuminurea.

Study Design: Randomized control trial study.

Place and Duration of Study: This study was conducted at the Department of General Medicine, Allied Hospital, Faisalabad from March 2016 to August 2016.

Materials and Methods: A total number of 320 (100%) patients was enrolled in the trial. SPSS (v 23) was used to analyze the patient’s data. Mean and SD were calculated and presented for numerical data and frequency percentages were calculated and presented for qualitative data. Chi square test was applied to see effect modification. P value ≤ 0.05 was considered as significant.

Results: A total number of 100% (n=320) microalbuminurea in Type II DM patients were included in this study, both genders. In our study in group (P), 85% (n=136) patients showed reduction in microalbuminurea and in group (L), 81.9% (n=131) patients were observed reduction in microalbuminurea. To compare the efficacy of Losartan Potassium and Lisinopril, independent sample t-test was applied. It was observed that there was no significant difference between the efficacies of Losartan Potassium and Lisinopril, i.e. these two drugs were equally effective with p-value 0.454.

Conclusion: From results of our study it is concluded that Lisinopril and Losartan potassium, both are significantly effective in reduction of microalbuminuria and can be advised as first line therapy in diabetes mellitus type II patients.

Key Words: Losartan Potassium, Lisinopril, Diabetes type II, Microalbuminurea

INTRODUCTION

Diabetes mellitus is a major cause of non-vascular diseases such as retinopathy, cardiovascular diseases, diabetic ketoacidosis and nephropathy.1-3. Diabetes mellitus is managed earlier, these complications can be prevented or their effects can be reduced. Among early indicators of nephropathy microalbuminurea is a key point to understand the patient’s further management.4 Untreated microalbuminurea may lead to high rate morbidity and mortality. Prevention of all these complications co morbid diseases could be lifesaving if managed at early stage of disease and with the help of advanced pharmacological management.5 Excretion of 30-300 mg of albumin within 24 hours will be labeled as microalbuminurea it can also be defined as 30mg/g ratio of albumin to creatinine ratio in first morning sample.6

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MATERIALS AND METHODS

This randomized control trial was conducted in the department of medicine, Allied Hospital, Faisalabad from March 2016 to August 2016. After approval from ethical committee of institution and informed consent from patients a total number of 320 (100%) patients was enrolled in the trial, sample size was calculated with the use of following formula

\[ n = \left( \frac{Z_{0.025} + Z_{\beta}}{p_1 - p_2} \right)^2 \]

Confidence interval 95%, power of study 80%, \( p_1 = 80 \% \), \( p_2 = 86.7 \% \) and in P2 group L (Lisinopril) 66% (6). A simple lottery method was used to divide the patients into two equal groups (160 patients in each group). Patients who were hypertensive, having connective tissue diseases, chronic heart failure, pregnancy, lactation, and known hypersensitivity to ACE inhibitors or Angiotensin Receptor Blocker were excluded from the study.

All information was collected by researcher himself such age gender, albuminurea before starting drug and after 12 weeks of treatment was noted. 100 mg of Losartan potassium was given for 12 weeks to group P (losartan potassium) and 5 mg of Lisinopril for 12 weeks to group L (Lisinopril). Urine sample was collected in standard container given by the laboratory assistant in early morning for albuminurea before and after 12 weeks. Follow up was done by another physician who was blind to this research process and purpose to reduce bias after 12 weeks by contacting the patients on their telephonic contact numbers. Effectiveness was seen in terms of 25% reduction in albuminurea after 12 weeks medication in both groups. SPSS (v 23) was used to analyze the patients data. Mean and SD were calculated and presented for numerical data and frequency percentages were calculated and presented for qualitative data. Chi square test was applied to see effect modification. P value ≤ 0.05 was considered as significant.

RESULTS

A total number of 100% (n=320) microalbuminurea in Type II DM patients were included in this study, both genders. Gender distribution showed that there were more males than females i.e. 69.1% (n=221) and 30.9% (n=99) respectively. The mean age and BMI of the patients was 50.98±8.45 years and 26.6±2.70 BMI respectively.

These 100% (n=320) patients were treated with losartan potassium and Lisinopril and were divided into 2 equal groups, 160 in each. Patients treated with losartan potassium, were included in group (P) and Lisinopril treated patients were included in group (L). The mean age and BMI of the patients in group (P) was 46.81±5.74 and 24.68±1.48 respectively, in group (L) 55.13±8.69 and 28.51±2.25 respectively (table-1, 2).

The main outcome variables of this study were microalbuminurea. In group (P), 85% (n=272) patients showed reduction in microalbuminurea and in group (L), 81.9% (n=48) patients were observed reduction in microalbuminurea (table-3).

When patients were categorized into different age and BMI categories, it was noted that majority of patients i.e. 77.2% (n=247) were aged from 46 to 65 years and only 22.8% (n=73) were aged from 25 to 45 years. 82.2% (n=263) patients were BMI from 23 to 29 and 17.8% (n=57) patients were BMI from 30 to 33 respectively.

Table No.1: Mean age in both groups

<table>
<thead>
<tr>
<th>Groups</th>
<th>Mean Age in years</th>
<th>Mean BMI</th>
</tr>
</thead>
<tbody>
<tr>
<td>Group (P)</td>
<td>46.81±5.74</td>
<td>24.68±1.48</td>
</tr>
<tr>
<td>Group (L)</td>
<td>55.13±8.69</td>
<td>28.51±2.25</td>
</tr>
</tbody>
</table>

Table No. 2: Demographic variables

<table>
<thead>
<tr>
<th>Characteristics</th>
<th>Frequency</th>
<th>% age</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>221</td>
<td>69.1</td>
</tr>
<tr>
<td>Female</td>
<td>99</td>
<td>30.9</td>
</tr>
<tr>
<td>Total</td>
<td>320</td>
<td>100.0</td>
</tr>
<tr>
<td>Stratified Age</td>
<td></td>
<td></td>
</tr>
<tr>
<td>25-45 years</td>
<td>73</td>
<td>22.8</td>
</tr>
<tr>
<td>45-65 years</td>
<td>247</td>
<td>77.2</td>
</tr>
<tr>
<td>Total</td>
<td>320</td>
<td>100.0</td>
</tr>
<tr>
<td>Stratified BMI</td>
<td></td>
<td></td>
</tr>
<tr>
<td>23-29 BMI</td>
<td>263</td>
<td>82.2</td>
</tr>
<tr>
<td>30-33 BMI</td>
<td>57</td>
<td>17.8</td>
</tr>
<tr>
<td>Total</td>
<td>320</td>
<td>100.0</td>
</tr>
</tbody>
</table>

Table No.3: Frequency of Microalbuminurea in both groups

<table>
<thead>
<tr>
<th>Groups</th>
<th>Microalbuminurea</th>
<th>Frequency</th>
<th>Percent</th>
<th>P Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Group (P)</td>
<td>Yes</td>
<td>24</td>
<td>15</td>
<td></td>
</tr>
<tr>
<td>No</td>
<td>136</td>
<td>85</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>320</td>
<td>100.0</td>
<td>0.452</td>
<td></td>
</tr>
<tr>
<td>Group (L)</td>
<td>Yes</td>
<td>29</td>
<td>18.1</td>
<td></td>
</tr>
<tr>
<td>No</td>
<td>131</td>
<td>81.9</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>320</td>
<td>100.0</td>
<td></td>
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</tr>
</tbody>
</table>

To compare the efficacy of Losartan Potassium and Lisinopril, independent sample t-test was applied. It was observed that there was no significant difference between the efficacies of Losartan Potassium and Lisinopril, i.e. these two drugs were equally effective with p-value 0.454 (table-3).
When Chi-Square was applied to check the effect modification, it was noted that microalbuminuria was significantly associated with stratified gender, Stratified age and BMI with p-values 0.000, 0.000 and 0.001 respectively. But microalbuminuria was not significantly associated with Groups i.e. group (P) and group (L) (table-4).

Table No. 4: Association of Microalbuminuria with Effect Modifiers (n = 320)

<table>
<thead>
<tr>
<th>Effect Modifiers</th>
<th>Microalbuminuria</th>
<th>Total</th>
<th>P-value</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Yes</td>
<td>No</td>
<td></td>
</tr>
<tr>
<td>Gender</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>48</td>
<td>173</td>
<td>221</td>
</tr>
<tr>
<td>Female</td>
<td>5</td>
<td>94</td>
<td>99</td>
</tr>
<tr>
<td>Total</td>
<td>53</td>
<td>267</td>
<td>320</td>
</tr>
<tr>
<td>Stratified age</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>25-45 years</td>
<td>24</td>
<td>49</td>
<td>73</td>
</tr>
<tr>
<td>46-65 years</td>
<td>29</td>
<td>218</td>
<td>247</td>
</tr>
<tr>
<td>Total</td>
<td>53</td>
<td>267</td>
<td>320</td>
</tr>
<tr>
<td>Stratified BMI</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>23-29 BMI</td>
<td>52</td>
<td>211</td>
<td>263</td>
</tr>
<tr>
<td>30-33 BMI</td>
<td>1</td>
<td>56</td>
<td>57</td>
</tr>
<tr>
<td>Total</td>
<td>53</td>
<td>267</td>
<td>320</td>
</tr>
</tbody>
</table>

Table No.5: Independent sample t-test

<table>
<thead>
<tr>
<th>t</th>
<th>d.f</th>
<th>P-value</th>
<th>Mean difference</th>
<th>S.E Difference</th>
</tr>
</thead>
<tbody>
<tr>
<td>-0.750</td>
<td>318</td>
<td>.454</td>
<td>-0.031</td>
<td>.042</td>
</tr>
<tr>
<td>-0.750</td>
<td>316.186</td>
<td>.454</td>
<td>-0.031</td>
<td>.042</td>
</tr>
</tbody>
</table>

DISCUSSION

Renal failure can be diagnosed with glomerular filtration rate, renoprotection is challenged in these days in patients of diabetes type II. Microalbuminuria is a key point of its earlier control. This earlier damage is reversible if dynamic control is good at this stage. Addition of ACE inhibitors and ARBs also helpful if given and monitored timely. Many trials have been conducted on this topic that supports in renoprotective strategy. In a recent hoc analysis it is noted that there is a less incidence of nephropathies in subjects who are using ARBs than those patients who were not using ARBs (control group).

In some trials it is also reported that both ACE inhibitors and ARBs are equally effective in delaying the nephropathy of type II diabetes. Basi Set al (16) conducted a study on losartan potassium (ARB) and Lisinopril (ACE inhibitor) in patients of diabetes type II. Our study is similar to this study; we compare Losartan potassium and Lisinopril head to toe in type II diabetes in terms of reduction in microalbuminuria which is a key point in this aspect. Results of our study shown that, effectiveness of both drugs is different significantly but when we compare two groups their effectiveness is not significantly different.

In our study in group (P), 85% (n=136) patients were cured and in group (L), 81.9% (n=131) patients were cured. To compare the efficacy of Losartan Potassium and Lisinopril, independent sample t-test was applied. It was observed that there was no significant difference between the efficacies of Losartan Potassium and Lisinopril, i.e. these two drugs were equally effective with p-value 0.454.

A study was conducted by Oguri et al in 2009 and reported that there is no difference in effectiveness of both drugs Lisinopril and losartan potassium for the prevention of microalbuminuria for the management of nephropathy in type II diabetic patients. Results of his study were ACR ratio in Lisinopril group was 118.0 ± 78.7 mg/µg and in losartan group it was 119.5 ± 84.7 mg/µg respectively. Results of our study are comparable with this study, as we also concluded no markable difference on both regimens.

Another study was conducted by Mogensen CE et al on similar topic in which Lisinopril and losartan were compared and reported that candesartan is as effective as Lisinopril in reduction of hypertension and microalbuminuria in patients of diabetes type II patients. These results are also in favor of our results and our study authenticated by another previous trial. Most previous trials were in favor of our trial and a little number was in conflict of our conclusion.

Another study conducted by Naganuma T et al reported that the use ARB in combination with low dose diuretics have good results in reducing microalbuminuria in patients of diabetes type II who were undergone for renal transplant. This decrease in microalbuminuria with ARB agents supports our results as we claimed in our study that ARB and ACE inhibitors both were effective for the management of nephropathy by decreasing the release of microalbuminuria.

In another study Sandhu et al reported that both ACE inhibitors and ARBs are equally effective in reduction of microalbuminuria when advised in type II diabetic patients for renoprotection and reduce the albumin to creatinine ratio. Findings and conclusion of this study is also comparable with results and conclusion of our study.

CONCLUSION

From results of our study it is concluded that Lisinopril and Losartan potassium, both are significantly effective in reduction of microalbuminuria and can be advised as first line therapy in diabetes mellitus type II patients.

Author’s Contribution:
Concept & Design of Study: Shabnam Seher
Drafting: Tayyuba Irum
Data Analysis: Tayyuba Irum
REFERENCES

Frequency of Current Smokers and Ex-Smokers among Patients of Pulmonary Tuberculosis

Noor Akbar¹, Sara Saleem², Nargis Noor³ and Masood Alam³

ABSTRACT

Objective: To document and investigate the frequency of current smokers and ex-smokers among patients of pulmonary tuberculosis.

Study Design: Cross sectional study

Place and Duration of Study: This study was conducted at the Department of Pulmonology, Nishtar hospital, Multan from November 2016 to April 2017.

Materials and Methods: A total number of 151 (100%) patients were enrolled in the study. SPSS version 23 was used to analyze patient’s data, Mean and standard deviation was calculated for quantitative data and frequency (percentages) was calculated for qualitative data like gender and smoking status. Chi square test was applied to see effect modification, p value ≤ 0.05 was considered as significant.

Results: A total number of 100% (n=151) patients were diagnosed with pulmonary tuberculosis included in this study. The main outcome variable of this study was smoking status (current smoker or ex-smoker). Out of 100% (n=151) patients, in our study, it was observed that 62.9% (n=95) were current smokers and 37.1% (n= 56) were ex-smokers.

Conclusion: Smoking has strong correlation with pulmonary tuberculosis and pretreatment positive smear. Smokers had more than a 5-fold increased risk of a pretreatment positive smear than non-smokers which is significant number, indicating marked effects of smoking on the risk of TB transmission.

Key Words: Pulmonary TB, Current smokers, Ex-smokers, Positive smear

INTRODUCTION

Pulmonary tuberculosis caused by mycobacterium tuberculosis¹. Round about 1.3 billion people are smoking cigarettes and other tobacco products at present. Among these a big strength about 250 million are women²,³. Many industrialized countries were shifted from developed to developing countries due to use of tobacco and high frequency of pulmonary tuberculosis. This number. The number of patients increasing with the passage of time. According to a survey mortality rate of pulmonary tuberculosis was 1.7 in 1985 than 3 million in 1990 and it is expected that it may be 8.5 million in 2020⁴. WHO declared tuberculosis as an emergency in third world countries where its ratio increasing more rapidly. poverty, malnutrition, overcrowding and homelessness⁵. It is a point of concern worldwide that with all hazards smoking accepted as a social trend in low economic countries main risk factors of TB are community. Both smoking and tuberculosis due to smoking are major hazards to humanity well being and work up for its management is the main health concern worldwide⁶. In our state many government and non government organizations are working for the prevention of smoking and to reduce its contribution in pulmonary TB.

Small number of studies concluded that smoking is a risk factor of tuberculosis and in these studies it is also concluded that association of smoking with TB is dose dependent (number of cigarettes smoked per day)⁷. In a recent study it is reported that TB is mostly diagnosed in male subjects due to high smoking rate because of greater exposure to smoking environment, contact with already smokers and community acquired factors⁸. Pradeepkumar AS et al⁹ conducted a study on Smoking among tuberculosis patients in Kerala, India: proactive cessation efforts are urgently needed. Results of the study were, six months prior to diagnosis, 94.4% of male TB patients were ever smokers and 73.4% were current smokers. Although 87% of patients had quit smoking soon after diagnosis, 36% had relapsed by 6 months post treatment¹⁰. Aim of our study is to evaluate the association between smokers (ex smokers and current smokers) and tuberculosis, so that magnitude of impact of smoking on tuberculosis can be calculated and study will be helpful reference for further research in south region.
MATERIALS AND METHODS

This cross-sectional study was conducted in the department of pulmonology, Nishtar hospital, Multan from November 2016 to April 2017. After approval from the institutional committee of hospital study was started. Informed consent was obtained from the patients. A total number of 151 (100%) patients were enrolled in the study. Sample size was calculated using OpenEPi using following values: Percentage of previous study (P) 87%, Confidence interval 95%, and power of test 80% (9). Patients with pulmonary TB as per operational definition, age 25-60 years and both genders were included in the study. Patients with lung diseases other than pulmonary tuberculosis like COPD, asthma and ILD were excluded from the study. Patient with following clinical signs will be will be consider for AFB smear, if smear will be positive for AFB patient will be labeled TB positive: history of cough more than three months, fever more than three months, weight loss and shortness of breath. Once registered, these study cases diagnosed to have pulmonary TB (as defined in operational definition) will be asked for their smoking history to diagnose history of before including patient’s data in research and they will be ensured about their confidentiality. Smoking status was investigated. After clinical examination, sputum sample sent to the laboratory for AFB staining and results will be collected. All the data will be entered on the Performa for each patient. (Performa attached).

Data collected was entered and analyzed using computer software SPSS (v23). Mean and standard deviation was calculated for quantitative data and frequency (percentages) was calculated for qualitative data like gender and smoking status. Chi-square test was applied to see effect modification, p value ≤ 0.05 was considered as significant.

RESULTS

A total number of 100% (n=151) patients were included in this study, both genders. Gender distribution showed that there were more males than females i.e. 60.9% (n=92) and 39.1% (n=59) respectively. The mean age and of the patients was 38.56±8.50 years, 23±2.13 BMI, respectively (table-1).

The main outcome variable of this study was smoking status (current smoker or ex-smoker). Out of 100% (n=151) patients, in our study, it was observed that 62.9% (n=95) were current smokers and 37.1% (n=56) were ex-smokers (table-1).

When patients were grouped into different categories of age and BMI, it was noted that a majority of patients i.e. 62.9% (n=95) were aged from 36 to 60 years and 37.1% (n=56) were aged from 25 to 35 years. 90.1% (n=136) patients were BMI from 21 to 25 and 9.9% (n=15) were BMI from 15-20 (table-2).

When Chi-Square was applied to check the effect modification, it was noted that gender and stratified age were significantly associated with smoking status (current or ex-smoker) with p-values 0.000, 0.000. Stratified BMI was not associated with smoking status (current or ex-smoker) with p-value 0.053 (table-3,4).

DISCUSSION

Pulmonary tuberculosis caused by Mycobacterium tuberculosis is a major public health problem worldwide. It is strongly associated with lung parenchyma diseases, pulmonary TB, caviar lesions and less effectiveness of TB treatment regimens. Smoking is a strong indicator of positive smear before treatment even in diabetic patients. Although results are not consistent but association of smoking with pulmonary tuberculosis was reported in many studies such as in a study conducted by Leung et al it was reported that smokers are more prone to upper respiratory tract infections and have reduced phosphatidylcholine levels in their sputum, which leads to immunosuppression and increased risk of tuberculosis. Additionally, smoking has been shown to reduce the effectiveness of TB treatment regimens. This presents a significant challenge in the control and prevention of tuberculosis, as smokers are more likely to experience treatment failure and transmit the disease to others.

In conclusion, this study highlights the importance of addressing smoking cessation in the context of tuberculosis control. Public health interventions targeting smoking cessation among individuals with pulmonary tuberculosis are critical to improve treatment outcomes and reduce the transmission of the disease. Further research is needed to explore the mechanisms underlying the relationship between smoking and tuberculosis, as well as the effectiveness of interventions to help smokers quit.
zone involvement of lungs and positive culture of sputum. Results of this study a similar to results of our study and it is a authenticating reference in favor of our conclusion.

A similar study was conducted by Altez Gomez et al on smokers and non-smokers to find out the ratio of pulmonary tuberculosis and reported that among smokers 35.8% patients have cavity lesions and 66.2% were with positive smear. This rate of positive smear and cavity lesions among smoking patients was significantly higher than non-smokers in diagnosed tuberculosis patients. Wang et al conducted a study on 523 patients and concluded that ever smokers are more prone to have positive smears and cavitation than never smokers. But according to his results pretreatment positive smears were not significantly associated in both groups.

In another study Leung et al reported that in Hong Kong population lung diseases (lung cavity, positive sputum culture) are more likely associated with smokers (39.6% in ex-smokers, 29.2% in non-smokers and 37.7% in smokers). Results of this study again comparable with our study and this study also favors our study.

In 1994 Busking et al conducted a case control study between current, former smokers and never smokers. He found that current and former smokers have 30-50% more risk of pulmonary tuberculosis than non-smokers. Among these persons who are smoking from last 20 years is 2-3% more risk of having pulmonary tuberculosis. Many studies in past decade were conducted on this topic and almost all claimed that smoking is a provoking cause of pulmonary TB and this ratio is increasing year by year. These findings are comparable with our results.

Findings of our study were also identical to the results of Altez Gomez et al who investigate the correlation of smoking and tuberculosis in 2005. Thus study was conducted on 13038 and found that severity of disease was five times greater in smoking TB patients than non-smoking patients. Similar results of Rodgman A, Murin et al and Mihalton et al are also comparable with our results who reported a increase in TB incidence in smokers than non-smokers.

CONCLUSION

Smoking has strong correlation with pulmonary tuberculosis and pretreatment positive smear. Smokers had more than a 5-fold increased risk of a pretreatment positive smear than non-smokers which is significant number, indicating remarkable effects of smoking on the risk of TB transmission.

Author’s Contribution:
Concept & Design of Study: Noor Akbar, Sara Saleem
Drafting: Noor Akbar, Nargis Noor
Data Analysis: Masood Alam

Revisiting Critically: Sara Saleem
Final Approval of version: Noor Akbar

Conflict of Interest: The study has no conflict of interest to declare by any author.

REFERENCES


Association of Vitamin E in Pregnancy Induced Hypertension
Uzma Jamil and Muhammad Kamran Ali

ABSTRACT

Objective: To observe the association of vitamin E with pregnancy induced hypertension.

Study Design: Cross sectional study

Place and Duration of Study: This study was conducted at the Department of Gynaecology, Shalamar Hospital, Lahore from July 2016 to December 2016.

Methodology: Study was started after ethical approval from institution ethical board and completed within duration of July 2016 to December 2016. SPSS version 23 was used to analyze data. After calculations of frequencies for categorical variables like stratified age, BMI and mean for numerical variables like BMI, vitamin E level. Linear regression was applied to see the association between PIH and vitamin E level. P value ≤0.05 was considered as significant.

Results: A total number of 100% (n=323) women were included in this study. The mean age, BMI, parity, gravidity and vitamin E level of the women was 28.64±5.67 years, 28.28±2.81 BMI, 3.03±1.21, 3.71±1.70 and 7.37±2.96(µg/mL)respectively. To check of association of vitamin E level with pregnancy induced hypertension, linear regression was applied and it was observed that BMI and pregnancy with PIH were associated with Vitamin E level with p-values 0.040 and 0.000 respectively.

Conclusion: The observations of our study concluded that vitamin E level has significant association with pregnancy induced hypertension in each trimester of pregnancy.

Key Words: PIH, Vitamin E, Trimester, Blood pressure

INTRODUCTION

Pregnancy is basically the process of development of an embryo or fetus in the uterus of a woman as a result of fertilization\(^1\). The duration of pregnancy is 40 wks starting from last normal menstrual period (LNMP). Beginning with the ovulation and passing through the processes of fertilization, implantation and embryogenesis, female body undergoes many changes in preparation for conception. Prenatal development of fetus is in three periods of pregnancy which are termed as trimesters, each having duration of three months. First trimester begins from the conception and ends at 12th wk of pregnancy, second trimester is between 13 and 27 wks of pregnancy and third trimester is between 28 and 40 wks of pregnancy\(^9\).

In normal pregnancies, there is initial decrease in the blood pressure until 18 to 20 wks of gestation. If there is a high blood pressure either before pregnancy, or during the first trimester of pregnancy, there is increased risk of developing Pregnancy induced hypertension (PIH) or pre-eclampsia\(^4,5\). One of the most common disorders of human pregnancy is gestational hypertension. It is defined as having blood pressure higher than 140/90 mmHg measured on two separate occasions, and there should be a gap of more than 6 hrs between two readings, provided there is no Proteinuria, and it is diagnosed after 20 wks of gestation\(^6,7\).

Normally a low concentration of oxidative agents is required for body\(^8\). Very few studies were conducted on association of vitamin E with PIH and few of them failed to prove their correlation. Vitamin E and other oxidative agents play their role in various processes such as normal cellular growth, gene expression, protection against infections and as second messengers in mediating various biochemical processes within the cell\(^9\). In addition various low molecular weight substances, such as vitamin E have major role in reduction of PIH\(^10\).

Very few studies have been conducted on this topic; we designed this study to observe association of vitamin E in pregnancy induced hypertension. We used large sample size for this study instead of sample size used in previous studies. Our study is a reference for further research work on this topic.

MATERIALS AND METHODS

This cross sectional study was conducted in the department of Gynaecology Shalamar Hospital, Lahore. Study was started after ethical approval from institution...
were BMI from 23 to 29 and only 31.6% (n=102) were BMI from 30 to 38 (Table 1).

To check of association of vitamin E level with pregnancy induced hypertension, linear regression was applied. It was observed that BMI and pregnancy with PIH were associated with Vitamin E level with p-values 0.040 and 0.000 respectively (Table 2).

**Table No. 1: Demographic Variables: (n=323)**

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Frequency</th>
<th>Percentage (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stratified Age</td>
<td></td>
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</tr>
<tr>
<td>17-25 years</td>
<td>106</td>
<td>32.8</td>
</tr>
<tr>
<td>26-32 years</td>
<td>105</td>
<td>32.8</td>
</tr>
<tr>
<td>33-38 years</td>
<td>92</td>
<td>28.5</td>
</tr>
<tr>
<td>Total</td>
<td>323</td>
<td>100.0</td>
</tr>
<tr>
<td>Stratified BMI</td>
<td></td>
<td></td>
</tr>
<tr>
<td>23-30 BMI</td>
<td>221</td>
<td>68.4</td>
</tr>
<tr>
<td>31-38 BMI</td>
<td>102</td>
<td>31.6</td>
</tr>
<tr>
<td>Total</td>
<td>323</td>
<td>100.0</td>
</tr>
</tbody>
</table>

**Table No. 2: Regression Analysis**

<table>
<thead>
<tr>
<th>Term</th>
<th>Coef</th>
<th>SE Coef</th>
<th>T-Value</th>
<th>P-Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Constant</td>
<td>12.93</td>
<td>2.14</td>
<td>6.04</td>
<td>0.000</td>
</tr>
<tr>
<td>Age</td>
<td>-0.0026</td>
<td>0.0333</td>
<td>-0.08</td>
<td>0.938</td>
</tr>
<tr>
<td>BMI</td>
<td>-0.1511</td>
<td>0.0732</td>
<td>-2.06</td>
<td>0.040</td>
</tr>
<tr>
<td>Parity</td>
<td>0.1727</td>
<td>0.1344</td>
<td>1.29</td>
<td>0.199</td>
</tr>
<tr>
<td>Gravidity</td>
<td>0.0169</td>
<td>0.0819</td>
<td>0.21</td>
<td>0.837</td>
</tr>
<tr>
<td>Trimesters</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2nd Trimesters</td>
<td>-0.4011</td>
<td>0.4433</td>
<td>-0.91</td>
<td>0.366</td>
</tr>
<tr>
<td>3rd Trimesters</td>
<td>-0.1522</td>
<td>0.5522</td>
<td>-0.27</td>
<td>0.784</td>
</tr>
<tr>
<td>Pregnancy Type</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pregnancy with PIH</td>
<td>-3.2261</td>
<td>0.2823</td>
<td>-11.46</td>
<td>0.000</td>
</tr>
</tbody>
</table>

**Table No. 3: Mean Levels of Vitamin E (µg/mL) in Pregnancy Induced Hypertension (n=323)**

<table>
<thead>
<tr>
<th>Trimesters</th>
<th>Pregnancy Type</th>
<th>Mean±S.D</th>
</tr>
</thead>
<tbody>
<tr>
<td>1st Trimesters</td>
<td>Normal Pregnancy</td>
<td>9.18±2.86</td>
</tr>
<tr>
<td></td>
<td>Pregnancy with PIH</td>
<td>6.37±2.17</td>
</tr>
<tr>
<td>2nd Trimesters</td>
<td>Normal Pregnancy</td>
<td>9.09±2.76</td>
</tr>
<tr>
<td></td>
<td>Pregnancy with PIH</td>
<td>5.54±1.98</td>
</tr>
<tr>
<td>3rd Trimesters</td>
<td>Normal Pregnancy</td>
<td>8.86±2.68</td>
</tr>
<tr>
<td></td>
<td>Pregnancy with PIH</td>
<td>5.12±1.85</td>
</tr>
</tbody>
</table>
DISCUSSION

Pregnancy induced hypertension is a serious condition during pregnancy if occurs at any stage of pregnancy. Carrying pregnancy with hypertension is a challenge for female specially for primigravida. Among lots of causes deficiency of vitamin E (α-tocopherol) is also cause of pregnancy induced hypertension. Its role in PIH have been described in very few books and investigated by very few persons. In this present study we have seen that vitamin E is strongly associated with PIH.

In a study Sushil K et al compared normotensive and hypertensive groups by investigating their vitamin E level at the time of delivery and concluded that vitamin E is highly associated with pregnancy induced hypertension. He draw blood sample of patients from both groups and sent to laboratory for vitamin E level and noted that hypertensive group have low vitamin E values than normotensive females (22±1 vs 27±1 nmole/ml, p<0.03).

In 2005 Rumbold AR et al conducted a study on correlation of vitamin C and E with hypertension disorders in pregnancy. In his study he concluded that vitamin E is highly associated with hypertensive problems during pregnancy. This association was significant as (p=0.02). Results of this study were comparable with our results. A limited number of studies available in which association of vitamin E was evaluated otherwise most of studies conducted on combined correlation of vitamin C and E with pregnancy induced hypertension.

At the same time Basaran A et al reported in a study that combined use of vitamin C and E increase the risk of pre-eclampsia and pregnancy induced hypertensive issues. In this study vitCE group was compared with placebo group. Hypertensive disorder was found in 9.7% cases in vitCE group and 3.4% in placebo group. Another study conducted by Zuleha et al on effect of palm oil vitamin E also specified the role this vitamin in prevention of PIH by preventing lipid peroxidation. Vitamin E also act as anti inflammatory, this property of α-tocopherol also specified the role this vitamin in activation of NAD(P)H oxidase.

CONCLUSION

Observation of our study concluded that vitamin E level has significant association with pregnancy induced hypertension in each trimester of pregnancy.

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Comparison of Efficacy of Risperidone and Placebo in the Patients Suffering from Schizophrenia in Punjab, Pakistan

Tayyuba Irum, Shabnam Seher and Arooj Iqbal

ABSTRACT

Objective: To examine efficacy of Risperidone for treatment of schizophrenia in comparison with placebo.

Study Design: Randomized clinical study.

Place and Duration of Study: This study was conducted at the Department of Psychiatry, Allied hospital, Faisalabad from May 2016 to May 2017.

Materials and Methods: Approval of the study was taken from Ethical Review Board of the Allied hospital, Faisalabad. Data was collected through universal sampling technique and analyzed by using computer software SPSS version 22, mean and SD was calculated for quantitative variables like age and frequency (percentages) were calculated for qualitative variables like gender, education status and symptoms of disease. Chi square test was applied to see effect modification; p value ≤ 0.05 was taken as significant.

Results: Total 80 respondents were included in this study, 24 (30%) were females and 56 (70%) were males and Placebo and Risperidone groups were equally distributed. Outcome of our study was improvement in symptoms of disease after drug use. From placebo group, almost all study participants were fall in condition not improved group (97.5%) and in Risperidone group more half (80%) study participants fall in condition improved group. Value of Chi square (49.6) at 1 degree of freedom was found statistically significant (0.000) indicating significant relationship of disease status and treatment group.

Conclusion: Significantly greater improvements in relieving the symptoms and improving the quality of life and overall well-being were demonstrated in patients randomized to risperidone compared to placebo.

Key Words: Risperidone, Schizophrenia, Atypical, Antipsychotic

INTRODUCTION

Every year about 1% of people of total population suffer from schizophrenia worldwide. Generally symptoms of schizophrenia appear in early age and become worse throughout life. It is not a curable disease yet. In 1950s Chlorpromazine has been introduced chemist's start working on treatment of schizophrenia more systematically and many drugs discovered. After all these efforts and drug invention Schizophrenia still a degenerative disorder and its pathophysiology and causes are unknown.

Usually schizophrenia labeled as single disease but it is group of symptoms or set of disorders due to changes in brain neurochemicals. Every group of symptoms demand a different treatment plan consisted of single drug or combination of drugs. After the use of antipsychotic drugs as symptoms improves same time their side effects reduce the quality of life and neurological disorder also becomes poor even permanent functional disorder. Some more side effects include metabolic disorder, weight gain and weak motor response.

An antipsychotic drug clozapine was introduced in 1971 and considered a drug of choice in among antipsychotic drugs medicines. Clinical results and pharmacology of clozapine is too much different from 1st generation (haloperidol, chlorpromazine). Clozapine called as atypical antipsychotic because it does not causes extra pyramidal adverse effects. Now in these days a wide range of drugs distribution have been described between 1st and 2nd generation antipsychotics. Drugs in both generations have different mechanism of action and agonist and antagonist properties.

Advantages of risperidone over other antipsychotics (haloperidol) are rapid onset of action, less extrapyramidal adverse effects and excellent effectiveness over negative symptoms of schizophrenia. In some reports it was described that risperidone also have short hospital stay in old schizophrenic patients.

This review focuses on the pharmacology and clinical data of risperidone, a novel compound that is currently in Phase III development for the treatment of schizophrenia and other neuropsychiatric and neurodegenerative disorders.
MATERIALS AND METHODS

It was a randomized clinical trial conducted in the department of Psychiatry, Allied hospital, Faisalabad, from May 2016 to May 2017. Approval of the study was taken from Ethical Review Board of the Allied hospital, Faisalabad. Eighty patients (80) were selected through universal sampling. Patients of Schizophrenia were randomly divided into two equal groups into Risperidone group and Placebo group. Informed consent was taken from the patients after briefing about the study purpose. It was a double blind study so patients and doctors both do not have idea about Risperidone group and Placebo group. Pregnant and lactating women, patients already on neuroleptic disease, drug abusers and who were refused to participate in study were excluded.

In Risperidone group patients were given Risperidone 1mg BD on first day, 2 mg twice on 2nd day, 3 mg twice a day on day three and 3 mg twice was remained continue for seven days. Positive and Negative Syndrome Scale (PANS) was used to check the symptoms severity of Schizophrenia patients.

Data was collected through questionnaire and entered into SPSS version 23. Analysis was divided in two main parts. First one was descriptive and the second was inferential statistics. Descriptive statistics (percentages and frequency tables) were generated and reported for socio demographic variables and groups. Relationship and efficacy of both groups was also checked. P value ≤ 0.05 was considered as significant.

RESULTS

Total 80 respondents were included in this study and their age distribution was as 24 respondents (30%) were in age category ranging from 19-29 years, 44 (55%) were in range of 30-39 years and 12 (15%) respondents were having age category 40 and above age group. Out of total 80 respondents, 24 (30%) were females and 56 (70%) were males. 40 study participants were excluded.

Their education status revealed that of the total 80 respondents, 25 (31.2%) were illiterate, 37 (46.3%) were primary, 14 (17.5%) were metric, and 4 (5%) of them were having intermediate and above educational category. Frequency of signs and symptoms of schizophrenia were being checked and frequencies are being given in table-2.

Disease status and treatment group were cross tabulated and their findings were statistically significant. From placebo group, almost all study participants were fall in condition not improved group (97.5%) and in Risperidone group more half (80%) study participants fall in condition improved group. Value of Chi square (49.6) at 1 degree of freedom was found statistically significant (0.000) indicating significant relationship of disease status and treatment group given in table-3.

Table No.1: Demographics

<table>
<thead>
<tr>
<th>Age Category</th>
<th>Frequency (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>19-29 Years</td>
<td>24 (30%)</td>
</tr>
<tr>
<td>30-39 Years</td>
<td>44 (55%)</td>
</tr>
<tr>
<td>40 and above</td>
<td>12 (15%)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Gender</th>
<th>Frequency (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male</td>
<td>56 (70%)</td>
</tr>
<tr>
<td>Female</td>
<td>24 (30%)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Education Categories</th>
<th>Frequency (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Illiterate</td>
<td>25 (31.2%)</td>
</tr>
<tr>
<td>Primary</td>
<td>37 (46.3%)</td>
</tr>
<tr>
<td>Metric</td>
<td>14 (17.5%)</td>
</tr>
<tr>
<td>Intermediate and above</td>
<td>4 (5.0%)</td>
</tr>
</tbody>
</table>

Table No.2: Schizophrenia Signs and symptoms in Study Participants

<table>
<thead>
<tr>
<th>S. #</th>
<th>Sign</th>
<th>Positive in Participants Yes (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Hallucination</td>
<td>21 (26.3%)</td>
</tr>
<tr>
<td>2</td>
<td>Delusions</td>
<td>35 (43.8%)</td>
</tr>
<tr>
<td>3</td>
<td>Disordered Thinking</td>
<td>38 (47.5%)</td>
</tr>
<tr>
<td>4</td>
<td>Word Salad</td>
<td>57 (71.3%)</td>
</tr>
<tr>
<td>5</td>
<td>Social Withdrawal</td>
<td>62 (76.3%)</td>
</tr>
<tr>
<td>6</td>
<td>Loss of Motivation</td>
<td>42 (52.5%)</td>
</tr>
<tr>
<td>7</td>
<td>Loss of Judgment</td>
<td>20 (25.0%)</td>
</tr>
<tr>
<td>8</td>
<td>Less Response</td>
<td>45 (56.3%)</td>
</tr>
</tbody>
</table>
DISCUSSION

Risperidone become a new competitor in treatment of schizophrenia, and its efficacy confirmed by many comparative studies with haloperidol and antipsychotic drugs. In a study Guy et al12 concluded that risperidone is more efficient and shows a marked improvement when compared with other drugs global impressions scale. In another study conducted by Kay et al13 in 1968 reported that risperidone gain a greater decrease in schizophrenia symptoms and clinical outcomes when compared on brief psychiatric scale and positive, negative scale.

A total number of 80 (100%) respondents were included in this study, 24 (30%) were females and 56 (70%) were males. Results of our study shown that, percentage of symptoms improvement with use of placebo was lower as compared risperidone group. In a study Tamara Melink et al compared atypical and typical antipsychotics with placebo and reported that, atypical antipsychotics have better outcomes and more advantages over type in drugs in treatment of reflective schizophrenia. Findings of our study are also comparable without findings.

Marder et al15 conducted a study 1994 on risperidone in the treatment of schizophrenia and concluded that risperidone is an effective and safe antipsychotic against schizophrenia (both in positive and negative). In the treatment of schizophrenia role of atypical antipsychotics is well defined and their role in maintenance of schizophrenia is also known, but very few studies available about its role in acute schizophrenia treatment. Here is a study conducted by Raedler TJ et al16 in 2004 to investigate the role of risperidone in management of acute schizophrenia. In his study he concluded that it is a well tolerated medicine in patients of acute schizophrenia.

Few studies have been conducted in era of 1970s and 1980s for prevention of schizophrenia with long term use of antipsychotics in comparison with placebo17. In view of these trials it was reported that continuous use of antipsychotic drugs reduces the chance of hospitalization. In 2012 Lance18 conducted a study on relapse prevention of schizophrenia with antipsychotics and concluded that antipsychotic use for long term maintenance of schizophrenia is beneficial for patients.

Rattehalli RD et al19 conducted a review on role of risperidone as compared to placebo and concluded that risperidone is more effective drug for treatment of schizophrenia when compared with placebo, another advantages of risperidone is that patient compliance is also good and patients level of comfort is also high. Some adverse effects of these drugs limit the use of risperidone. Results of our study are comparable with this review conclusion.

Pajonk FG et al20 conducted a study on Risperidone: an open-label, observational study of the efficacy,
tolerability, and prescribing behavior in acutely exacerbated patients with schizophrenia and concluded that in treatment of exacerbated schizophrenia risperidone is very effective and well tolerated. These results are also identical to our results.

CONCLUSION
Significantly greater improvements in relieving the symptoms and improving the quality of life and overall well-being were demonstrated in patients randomized to risperidone compared to placebo. The effect was more pronounced in the risperidone group. Patient satisfaction improved significantly and patient preference for their medicine favored rispiridone120 mg versus placebo.

Author’s Contribution:
Concept & Design of Study: Tayyuba Irum
Drafting: Tayyuba Irum
Data Analysis: Shabnum Seher
Revisiting Critically: Arooj Iqbal
Final Approval of version: Tayyuba Irum

Conflict of Interest: The study has no conflict of interest to declare by any author.

REFERENCES
Reducing Operative Time in Scaphoid Fractures Reduction

Mirza Shehab Afzal Beg¹, Syed Sheeraz ur Rahman², Fahad Hanif Khan¹ and Obaid-ur-Rehman¹

ABSTRACT

Objective: We aim to share our experience of scaphoid fractures repair with screw and its impact on the outcome.

Study Design: Retrospective case control study

Place and Duration of Study: This study was conducted at the Plastic Surgery Department, Liaquat National Hospital, Karachi from January, 2011 to December, 2015

Materials and Methods: We retrieved and compared all patients meeting our inclusion criteria, who had undergone scaphoid fracture fixation with either lag screw or compression screw, and sorted them into two groups respectively. Post-operative time was noted and patient rated wrist evaluation (PRWE) was used to objectify pain and function.

Results: Most of our patients were males 91.3% (21) with mean age of 26.4 ± 5.2 years. 69.5% (16) of the patients were right hand dominant. Out of 23 fractures we managed 65.2% (15) with AO lag screws and 34.7% (8) with cannulated compression screws. The mean total PRWE score was 37.6. Eighty seven percent (20) of the patients showed improvement after intervention for scaphoid fractures, with PRWE mean pain score of 8.9.

Conclusion: Early scaphoid fractures fixation using compression screws reduce operative time, pain and helps a young man to resume the earning in his productive years of life.

Key Words: Scaphoid fractures, Hand injury, Patient rated wrist evaluation, Conservative management, Screw fixation.

INTRODUCTION

Among hand injuries, carpal bones fractures are a challenge to diagnose and manage. Each bone demands a special treatment¹. Fractures of scaphoid account for most of the fractures among carpal bones². There are a number of studies providing algorithm for its management³-⁷, however most have emphasized on the radiological modalities and findings of scaphoid fractures⁸-¹⁰. About 88-90% of scaphoid fractures can be dealt with cast immobilization of the wrist in neutral position¹¹, but there has been a recent move to address scaphoid fractures fixation with screws³, especially after failed union in conservative management after 6 weeks¹². Literature is available highlighting use of different type of screws, its position at the fracture site¹³ and the pros and cons of its uses. In a study by Verga P and et al, who looked into the use of compression screws for scaphoid fixation and its effects on functional return of hand, they concluded that by reducing the inter-fragmentary shearing forces, compression screws results in better union and early return of hand activity.

We would like to share our experience with two types of screw fixation, lag screw versus compression screws, in scaphoid fractures management.

MATERIALS AND METHODS

The study was conducted over a period of 5 years, from January, 2011 to December, 2015, at Plastic Surgery department of a tertiary care, private sector teaching hospital in Karachi, Pakistan, equipped with multidisciplinary teams and advanced treatment modalities. Serving the region for over 50 years with key role in the last 1 decade, during and after the war in Afghanistan, providing its services with specialized trauma team and hand surgeons is exceptional. Being a teaching unit it is the departmental policy to inform and gain consent from the patients about possible use of medical data for research purposes, after ensuring their hidden identity. Institutional ethical review board has approved the study.

We retrieved data for all the scaphoid fractures which were managed by screw fixation and reviewed it for age of injury, gender, hand dominance, type of screw used, outcomes and complications. Following was the inclusion criteria:
- Unstable scaphoid fracture (defined by any 1 of these)
Patients with American Society of Anesthesiology (ASA) score of 2 or less

Nonunion or mal-union after conservative approach

Outcomes were assessed in terms of operative time, post-operative pain and range of motion. We used patient rated wrist evaluation (PRWE) scoring for objective measurement of pain and function. We labelled the score as follows:

- **Pain:**
  - 0: No pain
  - 1-10: Mild pain
  - 11-20: Moderate pain
  - 21-35: Severe
  - 36-50: Unbearable

- **Function:**
  - 0-25: Excellent
  - 26-50: Good
  - 51-75: Satisfactory
  - 76-100: Poor

Statistical Package for Social Studies (SPSS) version 19.0 was used to analyze the data for frequencies and co-relations. Chi-square test was used to test significance with 95% confidence interval.

**RESULTS**

23 patients met our inclusion criteria, male (21) to female (2) ratio was 10.5:1 and mean age of presentation was 26.4 ± 5.2 years. Most were right hand dominant, 69.5% (16) as compared to left 30.4% (7). Figure 1 shows demographic distribution in both the groups.

Out of 23 patients, 65.2% (15) had AO screw fixation (mini fragment 2mm lag screw) and 34.7% (8) had cannulated screws (2.4mm compression screws). We had shifted our approach from 2014 onward, with 65.2% (15) patients were before 2014 and 34.7% (8) afterwards.

**OPERATIVE TIME**

![Figure No.2: Correlation between screw type and operative time (n=23)](image)

**Outcomes:** All patients were followed up for minimum of 6 months. The mean total PRWE score was 37.6. There was improvement in pain in 86.9% (20) of the patients after intervention for scaphoid fractures, with PRWE mean pain score of 8.9. In AO screw group most patient had mean post-operative score of 1.2 as compared to 2.6 in cannulated screw (p-value: 0.84). One of our patient, with AO screw, had pain score of 45 and so the screw was removed after 6 weeks to relieve his symptom. There was a significant reduction in operative time, with majority in AO screws group had fixation in 101-120 minutes, as compared to cannulated screws group, who had fixation within 60-80 minutes (p-value: 0.01) (Figure 2). Comparing range of motion after scaphoid repair within the two modalities, there was (PRWE mean function score: 28) improvement in this aspect among 80% (12) patients in AO screw group as compared to 87.5% (7) in cannulated screws group (p-value: 0.18). We could not find statistically significant co-relation of age with type of screw and range of motion (p-value: 0.79 and 0.20 respectively). One patient in each group had mild surgical site infection which was managed with antibiotics according to local policy and no additional surgical intervention was required.

**DISCUSSION**

Scaphoid enjoys the importance in having tenuous blood supply, acutely missed diagnosis results in early non-union, arthritis or arthrosis of the bone. These injuries are easily missed at acute presentation but the specific presentation of fall on extended hand with tenderness and swelling in anatomical snuff box makes space for suspecting underlying scaphoid injury. Looking at the epidemiology of the disease, which is in line with our observations too, the incidence is more common in young active men with majority presenting...
in their 3rd decade, affecting their productive years of life.

Plain radiograph is 59–70% sensitive in picking scaphoid fractures, though it does not accurately evaluate injury at 6 weeks of follow up, which is usually required after conservative treatment. Bone scan has sensitivity of 99% for detecting occult scaphoid fractures but after 3 days of injury and it does not help in reducing cast immobilization in radiographic absent disease. On the other hand computed tomography (CT) and magnetic resonance imaging (MRI), in addition to being non-invasive, have 72% and 80% sensitivities with 99% and 100% specificities, respectively.

A meta-analysis has shown that 34% of conservatively managed proximal pole fractures of scaphoid end up in non-union. Another meta-analysis of 340 scaphoid fractures compared non-operative and operative management. It highlighted that early intervention even in acute un-displaced or minimally displaced fractures, resulted in preventing delayed non-union, better functional outcome and early return of activity.

Surgical management ranges from percutaneous fixation to arthroscopic or open screw placement. There had been researches on which screw is better in operative screw site pain. Early intervention for scaphoid fixation with compression screw reduces operative time and post-operative pain.

**CONCLUSION**

Early intervention for scaphoid fixation with compression screw reduces operative time and post-operative screw site pain.

**Author’s Contribution:**

Concept & Design of Study: Mirza Shehab Afzal Beg

Drafting: Fahad Hanif Khan

Data Analysis: Obaid-ur-Rehman

Revisiting Critically: Syed Sheeraz ur Rahman

Final Approval of version: Mirza Shehab Afzal Beg

**Conflict of Interest:** The study has no conflict of interest to declare by any author.

**REFERENCES**

Pattern of Hand Injuries in Accidents and Emergency Department of a Tertiary Care Hospital in Karachi
Mehtab Ahmed¹, Mirza Shehab Afzal Beg¹, Syed Sheeraz ur Rahman² and Urooj Zafar³

ABSTRACT

Objective: To analyze the pattern of hand injuries in terms of age, occupation, mechanism, type of injury and structures involved in patients with hand injuries visiting Liaquat National Hospital, Karachi.

Study Design: Descriptive case series.

Place and Duration of Study: This study was conducted at the Accidents and Emergency Department, Liaquat National Hospital, Karachi from Jan 2015 to June 2015.

Materials and Methods: The records of 2367 patients reported for hand injuries were analyzed. Collected data were categorized on the basis of normal handedness, Gender, age, place of injury, mechanism of trauma, types of injuries and its association with different mechanisms. The results were statistically analyzed using mean, frequency and ranges.

Results: Hand injuries constitute total 6% of hospital emergency visits with 75% (n=1775) male patients. Right hand dominance (91%) was seen but there was no significant difference in the involvement of right and left hand in injury. Young population (Age 16-35) was found most frequently suffered from hand trauma. Laborer and mechanical workers are the most affected personnel (30.7%) followed by office workers and students 27.3% and 23.9%, respectively. RTA and home were among the most common places of injury. Sharp cut and RTA were the main mechanisms of injury followed by machine/ crush injuries with fracture as the most common type of injury.

Conclusion: Young male population is at significant risk of hand trauma. Road traffic accident, industry and home are most common places. Proper understanding of mechanism of injuries and timely referral to hand specialist are key steps in appropriate management.

Key Words: Hand injuries, pattern, incidence, mechanism

INTRODUCTION

Hands and digits of human beings have a major role in all aspects of daily life. Hand with 27 muscles and 27 bones is a strong flexible structure. It is able to perform many fine movements. Accidental hand injuries are unfortunately common. Hand injury is more complex because of intricate hand design and if proper care is not given it result in devastating consequences. Injury to the hand leads to loss of function as well as deformity of body image. It has psychological and financial impacts due to time away from work and medical expenses. Total costs of these injuries in one study were US $410 million per year. According to one more study average cost per injury was found to be 474.82 IR pounds and 83% of days lost from work. Opsteegh et al has described Pain, accident location, job independence and symptoms of post-traumatic stress disorder as major factors associated with time away from work. Hand injuries are common accounting for nearly 15% of hospital emergency visits. Mismanagement of hand injuries is a frequent problem due to handling by non-hand specialists in emergencies and paucity of literature on pattern of hand injuries.

Epidemiology of hand injuries varies between communities depending on occupation and industrial activities. A thorough Knowledge of biologic, socioeconomic and behavioral factors in hand injuries serve as essential step in identifying the population at risk. Identified risk factors were using malfunctioning equipment/materials, using a different work method, performing an unusual work task, working overtime, feeling ill, being distracted and rushing. Graded exposure to workplace help in treating psychological symptoms like post traumatic stress disorder associated with workplace injury. The following retrospective study is designed to assess the pattern of hand injuries brought to accidents and emergency department of a tertiary care hospital. This demographic study will help in identifying the location and pattern of the injury and will help in designing a
A comprehensive treatment plan. It will also help to plan a community education program for prevention and appropriate referral of these injuries. Severe hand injuries should be treated in the specialist hand surgery centers. Such proceedings allow to minimize the extent of permanent post-injury disability and decrease total costs of treatment.3,10

MATERIALS AND METHODS

A descriptive case series was designed to evaluate the demographics of hand injury. It was conducted at Accidents and emergency department of Liaquat National Hospital, Karachi for 6 months (January 2015 to June 2015)

Inclusion Criteria:
1. Isolated hand injuries
2. Patients of all age groups
3. Patients of either gender

Exclusion Criteria:
1. Patients with polytrauma.
2. Patients with already repaired hand injuries in some other hospital.
3. Delayed cases presenting after 72 hours of injury.

The hospital records including emergency files and operation theatre notes of 2367 patients reported for hand injuries were analyzed. Collected data were categorized on the basis of normal handedness, involved hand in trauma, Gender and age. Data were also analyzed for the place of injury, mechanism of trauma; types of injuries and its association with different mechanisms. Variables will be analyzed using descriptive statics. Descriptive statistics include mean, frequencies and minimum to maximum range where applicable.

RESULTS

A retrospective study was conducted to analyze the pattern of hand injuries presented to Emergency Department of Liaquat National Hospital, Karachi. Out of total emergency visits (39,462), 6% presented with hand injuries (2367) in six months period (1st Jan.-30th June’2015). The records of these 2367 patients were analyzed to see the pattern of hand injuries.

Data suggests that significant number 75% (n=1775) of the patients were male and 25% (n=592) were females (data not shown in figures). With respect to dominance, 91% were right hand dominant and remaining 9% were left hand dominant. While, no significant difference in the involvement of right and left hand was found in contrast to Gupta et al.7 Young population (Age 16-35) was found most frequently suffered from hand trauma (Figure 1). Laborer and mechanical workers are the most affected personnel (30.7%) followed by office workers and student (27.3% and 23.9%, respectively, (Figure 2). Study reports that RTA and home were among the most common places of injury.

Sharp cut and RTA were the main mechanisms of injury followed by machine/ crush injuries (Fi 3) with fracture as the most common type of injury (Figure 4).
DISCUSSION

Hand injuries are common posing a significant burden on the Emergency Department of hospitals. They are the cause of serious financial and economical losses not only to individual but the whole society due to time away from work and medical expenses. A retrospective descriptive case series study was conducted to analyze the demographic and pattern of hand injuries presenting to ER of a tertiary care hospital.

Data suggest that young (16-35) male were the most affected population as previously been reported by other studies as well. With respect to involvement of hand, our data is in accordance to previously published reports suggesting no significant difference between right and left hand with right handed as the most affected. Understanding the environmental etiology is the first step for formulating preventive measures. Since Karachi is an industrial city, laborers and mechanical workers are the most common victims of hand injuries. This pattern is similar to the findings of Gupta et al and Ahmed & Chaka where they reported that laborers are the major chunks of trauma. The findings suggest an urge for designing safe and work friendly machines. This finding is in agreement with the next parameter where industry is the most reported site of accident with the frequency of 22%. In our study, home is the second most common site of accident whereas, a few other studies have specified home as the most common place of injury. Top on the list of place and mechanism of injury is RTA with 35%, suggesting the reckless and law-abiding driving in the community. The second most mechanism of injury is deep lacerations. Combination of tendon, artery and nerve is the most common set of structures involved in deep lacerations, followed by isolated tendon injuries. This type of pattern is also previously studied by Tuncali et al. Our results suggest that fracture is the most common type of injury which is in agreement with Angermann & Lohmann and very close to the observations of Nieminen & Nurmi.

CONCLUSION

Young male population is at significant risk of hand trauma. Road traffic accidents, home and industries are main sites of hand injuries. Skeletal framework of hand is most commonly damaged during trauma with fractures being the most common. This study has helped in understanding the mechanism and pattern of hand injuries that is important to anticipate damage and guides in making diagnosis and planning treatment.

Recommendation:

- Following traffic rules can significantly reduce the burden of hand injuries.
- Proper safety measures and careful use of machines should be emphasized to prevent injuries at work.
- Designing safe and work friendly machines.
- Sharp object should be handled with extreme care.
- Creating safe home environment is essential for preventing injuries especially in children.

Author’s Contribution:
Concept & Design of Study: Mehtab Ahmed
Drafting: Mehtab Ahmed
REFERENCES

Comparison of Effects of 10% Zinger, 10% Fenugreek and 10% Garlic with Atorvastatin in Hypercholesterolemia Induced Rats
Jawed Iqbal1, Farheen Hameed2, Asad Jiskani3 and Mazhar ul Haque4

ABSTRACT

Objective: Comparison of effects on lipid profile and hepatic enzymes by using 10% ginger, 10% fenugreek and 10% garlic against atorvastatin treated animals in hypercholesterolemia induced albino rats.

Study Design: Descriptive comparative experimental study.

Pace and Duration of study: This study was conducted at the Department of Biochemistry, Al-Tibri Medical College, Karachi from January 2016 to December 2016.

Materials and Methods: In the present study thirty six rats having weight of about 150-200 grams were included. The rats were further grouped into six A, B, C, D, E and F with six rats in each group. Group A (control) rats were kept on normal rat diet. Group B rats were kept on hypercholesterolemic diet containing 20% fat and 1% cholesterol. Group C rats were kept on supplemented diet having 10% ginger powder with hypercholesterolemic diet. Group D rats were kept on supplemented diet having 10% Fenugreek seed powder with hypercholesterolemic diet. Group E rats were kept on supplemented diet having 10% garlic with hypercholesterolemic diet. Group F rats were kept on 10mg/kg of atorvastatin in hypercholesterolemic diet.

Results: Significant decrease in triacylglycerol in group C (10% ginger) was noted as compared to group E (10% garlic) and F (Atorvastatin 10mg/kg of diet). Also the values of HDL were significantly higher in group C in comparison to the group D, E and F. However significant decrease in the level of total cholesterol is found in F (Atorovastin) group as compared to C and D group. Also the values of LDL were significantly lowered in group F in comparison to the group C, D and E. Alanine aminotransferase and Aspartate aminotransferase lowered significantly in group C in comparison to D and E group but had shown no significant difference as compared to group F.

Conclusion: Zinger 10% supplementation improved the LDL and triacylglycerol levels as compared to other herbs and atorvastatin treated group. However atorvastatin treated group showed more decreased LDL levels. No significant difference was found in hepatic protection when ginger and others were compared to atorvastatin group.

Key Words: Hepatoprotective, Garlic, Fenugreek, Ginger.

INTRODUCTION

American Heart Association defines hyperlipidemia as high levels of fat in blood which include cholesterol and triacylglycerols. Hypercholesterolemia is considered as disorder of metabolism that can result in many diseases such as diseases of heart and blood vessels. Long standing elevated hypercholesterolemia leads to accelerated atherosclerosis expressing itself as cardiovascular disease (CVD), Angina pectoris, heart attack and peripheral vascular disease.

Statins are synthetic drugs which functions to decrease the serum cholesterol by inhibition of HMG CoA reductase enzyme, which is involved in the regulation of cholesterol synthesis in the liver. Side effects of statins include damage to muscle tissue causing body aches, deranged LFTs and elevated blood sugar. Harmful effects of synthetic drugs eg; statins have been documented. The medicinal plants and natural drugs are more effective and less toxic substances being focused now a days. Different countries use medicinal plants as a source of many potent and powerful drugs.

Ginger (Zingiber officinale) is member of the family of plants having cardamom and turmeric as other members. Ginger is grown mostly in Asia and tropical countries.it is used for remedy of multiple conditions including colds, fever and indigestion. Ginger shows remarkable effect of lowering blood lipid in patients with hyperlipidemia. In a study it was shown that Ginger caused hypoglycemic and hypolipidemic effects in streptozotocine induced diabetic rats.
Fenugreek is leguminous bean plant, its Latin name is Trigonella foenum greecum. Fenugreek seed and its green leaves are used as food. Beside they have medicinal application. Fenugreek seeds provide natural food fibre and other nutrients required in human body.

Fenugreek is among the oldest medicinal plants. Its use has been mentioned in the Hippocrates and ancient Egypt times. Fenugreek has hypocholesterolemic, hypolipidemic (TAG lowering effect) and LDL lowering effect in hypercholesterolemic patients. The hypolipidemic effects of Fenugreek seeds have been ascribed to the presence of saponins and sapogenins. Extract of Garlic (Allium sativum) is another herbal medicine that decreases serum cholesterol levels in humans, inhibits synthesis of cholesterol in the body, suppresses oxidation of low density lipoproteins, lowers plasma fibrinogen and increases fibrinolytic activity and thus possesses anti atherosclerotic properties. Garlic lowers triacylglycerol by inhibiting fatty acid synthesis. The garlic reduces cholesterol by inhibition of HMG CoA reductase enzyme.

The use of medicinal plants including Zinger, Fenugreek and garlic to reduce the serum cholesterol levels with in comparison with the statins was studied in present study. Variation in the hepatic enzyme levels was also monitored to observe the side effects among these substances.

MATERIALS AND METHODS

In the present descriptive comparative experimental study thirty six albino rats having weight of about 150-200 grams were included. The study duration was from January 2016 to December 2016 and was conducted at Department of Biochemistry Al-Tibri Medical College and Hospital Karachi. A total of thirty six rats were further grouped into six A, B, C, D, E and F with six rats in each group. Animals in each group were fed on precisely designed diet charted as follows. Group A (control) rats were kept on normal rat diet. Group B rats were kept on hypercholesterolemic diet containing 20% fat and 1% cholesterol. Group C rats were kept on supplemented diet having 10% garlic powder with hypercholesterolemic diet. Group D rats were kept on supplemented diet having 10% Fenugreek seed powder with hypercholesterolemic diet. Group E rats were kept on supplemented diet having 10% crushed garlic with hypercholesterolemic diet. Group F rats were kept on 10 mg of Atorvastatin in 1 Kg of hypercholesterolemic diet.

At the completion of 08 weeks all the animals were sacrificed and serum was used for measuring total serum cholesterol, serum triacylglycerides, serum HDL and LDL and liver enzymes.

Results were analysed statistically by using student ‘T’ test and Analysis of variance (ANOVA). SPSS version 18 was used for statistical analysis. P Value < 0.05 was considered as statistically significant.

RESULTS

The results revealed that animals in group B who were feed on hypercholesterolemic diet, they showed deranged serum lipid profile with increase in total cholesterol (TC), triacylglycerols (TAG), low density lipoproteins (LDL), while decrease in the HDL level was observed when compared with group A rats. Also in group B rats serum hepatic enzymes ALT, AST and ALP were elevated when compared to group A animals.

Table 1 and figure 1 & 2 shows the comparison of lipid profile and serum liver enzyme activities in different groups of rats after taking 10% ginger, Fenugreek and Atorvastatin 10 mg/kg of diet. There is significant lowered level of triacylglycerides in group C (10% ginger) in comparison to group E (10% garlic) and F (Atorvastatin 10mg/kg of diet). Also the values of HDL were significantly increased in group C in comparison to the group D, E and F. However significant decrease in the level of total cholesterol is found in F (Atorovastin) group in comparison to C and D group. The values of LDL were significantly lowered in group F in comparison to group C, D and E.

Alanine aminotransferase and Aspartate aminotransferase decreased significantly in group C (10% Ginger) as compared to E (10% Garlic). Alkaline phosphatase (ALP) significantly decrease in group C as compared to D (10% Fenugreek) and E (10% Garlic) but had shown no significant difference as compared to group F (Atorvastin) as shown in Table-1 and figure 1 & 2.

Table No.1: Comparison of the lipid profile and hepatic enzymes of group C, group D and group E with group F rats

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Group C</th>
<th>Group D</th>
<th>Group E</th>
<th>Group F</th>
</tr>
</thead>
<tbody>
<tr>
<td>TC (mg/dl)</td>
<td>161.33± 4.25</td>
<td>169.66±6.46</td>
<td>151.80±5.45</td>
<td>127.00±3.91</td>
</tr>
<tr>
<td>TAG(mg/dl)</td>
<td>74.50±1.89</td>
<td>85.50±4.07</td>
<td>106.50±2.44</td>
<td>91.83±3.66</td>
</tr>
<tr>
<td>HDL(mg/dl)</td>
<td>45.16±1.51</td>
<td>42.66±1.30</td>
<td>39.83±2.53</td>
<td>38.50±2.79</td>
</tr>
<tr>
<td>LDL (mg/dl)</td>
<td>101.33±4.39</td>
<td>109.33±5.43</td>
<td>89.73±3.08</td>
<td>85.83±4.02</td>
</tr>
<tr>
<td>ALT (IU/L)</td>
<td>35.83±1.16</td>
<td>37.16±1.47</td>
<td>50.83±2.21</td>
<td>33.16±2.74</td>
</tr>
<tr>
<td>AST (IU/L)</td>
<td>92.66±2.06</td>
<td>102.50±3.81</td>
<td>124.50±4.39</td>
<td>91.83±3.66</td>
</tr>
<tr>
<td>ALP (IU/L)</td>
<td>234.66±7.45</td>
<td>292.50±10.93</td>
<td>269.33±4.98</td>
<td>230.66±5.04</td>
</tr>
</tbody>
</table>

P value

0.877 | 0.770 | 0.001 | 0.999
0.075 | 0.001 | 0.001 | 0.001
0.957 | 0.001 | 0.161 | 0.999
0.830 | 0.542 | 0.001 | 0.091
0.998 | 0.001 | 0.944 | 0.999
0.453 | 0.029 | 0.001 | 0.999
0.001 | 0.001 | 0.001 | 0.001
0.001 | 0.001 | 0.001 | 0.001
0.001 | 0.001 | 0.001 | 0.001
0.001 | 0.001 | 0.001 | 0.001

P value
Figure No.1: Comparison of lipid profile in 10% supplemented groups.
The graph represents the mean values of lipid profile in 10% ginger, 10% Fenugreek, 10% garlic and atorvastatin supplemented rats.

Figure No.2: Comparison of serum liver enzymes in 10% supplemented groups.
The graph represents the mean values of hepatic enzymes in 10% ginger, Fenugreek, garlic and atorvastatin supplemented rats.

The coefficient correlation between serum lipid profile and serum liver enzymes in ginger, Fenugreek and garlic supplemented groups showed that the group D had shown a positive correlation between the total cholesterol level with ALT and AST. The TAG also showed a positive correlation with AST in group C.

DISCUSSION
Continuing search is being carried out for natural substances that can treat hypercholesterolemia. Folic acid, green tea, spices Allium sativum (Garlic), Fenugreek (Methi), Zingiber (Ginger) have shown promising results. Use of high fat diet may result in the derranged lipid profile and with evidence of elevated serum triglycerides and total cholesterol as is shown in the present study. In a study conducted by Ramulu P et al\textsuperscript{18} vanspati ghee reported that use of Vanspati ghee may cause higher levels of triglycerides and total cholesterol. Ginger is widely used as a herbal medicine for the treatment of indigestion, vomiting and hypertension. A number of studies had been done to investigate the effect of ginger on hyperlipidemia. The daily intake of 2 gm of powdered ginger for 2 months decreased the level of triacylglycerol and LDL but no significant change in the level of total cholesterol and HDL level was observed\textsuperscript{19}. The plasma lipid lowering effect of ginger is associated with several processes. It may be due to disruption of cholesterol absorption from the gastro Intestinal tract, or interference with cholesterol biosynthesis in liver. Ginger also contain antioxidant properties which inhibit LDL oxidation, and decrease the HMG – CoA reductase activity, may lead to the biosynthesis of bile acids, which is one way of excretion of cholesterol from the body\textsuperscript{20}.

The liver enzymes aspartate amino transferase and alanine aminotransferase were increased in the rats feed on hypercholesterolemic diet in group B. The possible underlying mechanism responsible for such elevation is due to the hepatic cell membrane damage resulting in leakage of these enzymes and subsequent detection in the serum\textsuperscript{21}.

The effects of Fenugreek were studied in hyperlipidemic rats in the present study. A significant improvement was found in the deranged lipid profile with 10% Fenugreek supplemented diet given to rats in group D when compared to group B rats. Wan LX et al\textsuperscript{22} has reported similar findings in accordance with our findings. Fenugreek supplementation lowered the liver enzymes ALT, AST and ALP in supplemented groups as compared to hypercholesterolemic group, which showed the hepatoprotective effect of Fenugreek. Renuka et al\textsuperscript{23} had reported lowering of alanine aminotransferase and aspartate amino transferase after the supplementation of Fenugreek seeds in diabetic rats. The lipid lowering effects have been pronounced with the high dose of garlic, whereas serum triacylglycerols level is significantly decreased in 10% garlic supplemented group. The results of this study confirm the earlier hypolipidemic effects of garlic\textsuperscript{24}.

On treatment with 10% garlic supplementation the ALT, AST and ALP level are slightly increased, whereas serum triacylglycerols level is significantly decreased in 10% garlic supplemented group. The results of this study confirm the earlier hypolipidemic effects of garlic\textsuperscript{24}.

In the present study the three herbs namely Zinger, Fenugreek, and garlic were compared from one another for their hypolipidemic and hepatoprotective effects and
they were also compared with a synthetic drug; Atorvastatin for lowering of lipid contents and enzymes.

Fenugreek and Atorvastatin hypolipidemic effects were compared by Sharma and Choudhary found that Atorvastatin had lowered the TC, TAG, LDL-C significantly as compared to Fenugreek supplemented group but HDL-C level was raised in Fenugreek supplemented group as compared to atorvastatin group. The present work also shows a decrease of TC, and LDL-Cholesterol by Atorvastatin but no significant difference of HDL-C was observed in different supplemented groups of animals in the present study. Memon et al. reported that combination therapy of nigella sativa and Fenugreek with glibenclamide is beneficial for type – 2 diabetic patients as it increases serum HDL levels in these patients.

In the present study group C rats supplemented with zinger showed significant decrease in the serum triacylglycerol when compared to Fenugreek, garlic and Atorvastatin treated animals. In contrast to our findings Islam and Choi have reported no significant difference in levels of triacylglycerols.

CONCLUSION

Zinger 10% supplementation had slightly higher HDL levels as compared to other herbs and atorvastatin treated group. However atorvastatin treated group showed more decreased LDL levels. The triacylglyceridides level is significantly lowered in 10% zinger supplemented group in comparison to (10% garlic) and F (Atorvastatin) groups. So a conclusion may be drawn that triacylglycerides lowering effect of zinger is more effective and more potent to that of atorvastatin and other three herbs used. Further that the ginger has more hepatoprotective effect as compared to Fenugreek and garlic supplemented group. However no significant difference was found when ginger was compared to atorvastatin group.

Author’s Contribution:
Concept & Design of Study: Jawed Iqbal
Drafting: Jawed Iqbal, Asad Jiskani
Data Analysis: Farheen Hameed
Revisiting Critically: Mazhar ul Haque
Final Approval of version: Fawed Iqbal, Mazhar ul Haque

Conflict of Interest: The study has no conflict of interest to declare by any author.

REFERENCES
16. Sharma RD, Sarkar A, Hazra DK, Misra B, sing JB, Maheshwari BB. Toxicological evaluation of Fenugreek seeds a long term feeding experiment in...


25. Sharma MS, Choudhary PR. Hypolipidemic effect of Fenugreek seeds and its comparison with Atorvastatin on experimentally induced hyperlipidemia. JCPSP 2014; 24(8):539-542.


Objective: To identify whether serum adiponectin level was associated with varying degrees of CAD severity, both among hemodynamically non significant CAD group, which was considered as a control group in this study and in patients with stable CAD.

Study Design: Descriptive study

Place and Duration of Study: This study was conducted at the Ziauddin University Hospital, Karachi from 1st January 2008 to 31st December 2010.

Materials and Methods: Eighty participants who were advised angiography on the basis of ECG findings and blood parameters were selected for this study. They were assessed for CAD. Anthropometric parameters were checked by standard protocol. Serum adiponectin level was estimated by ELISA kit method.

Results: Serum adiponectin levels were found to be significantly high with increased BMI and waist hip ratio at p value of <0.001 while strong negative correlation was observed in CAD patients as the disease progresses.

Conclusion: Serum adiponectin levels can be used as an indicator of the severity of coronary artery disease.

Key Words: Association, Adiponectin, Progression, Coronary artery disease

INTRODUCTION

Coronary artery disease (CAD) is one of the major contributors of mortality and morbidity not only in the developed world but also in the developing countries. People of Indo-Asian origin have one of the highest susceptibility to coronary artery disease in the world.1 During the last two decades researchers emphasized that adipose tissue produces and secretes some proteins of specific biological activities. These proteins are well known as a term adipokines.2 Adiponectin is known to be the most abundantly secreted adipocytokine by the fat cells3 It is known to exert anti-inflammatory,6,7 insulin sensitizing8, antiatherogenic6,9,10 and cardioprotective effects in animals. Adiponectin is unique among other adipokines in that it is found in plasma in large quantities, but its concentration is decreased in diabetics12, obese5 and CAD13 and a high serum adiponectin level is believed to be associated with cardioprotection.

Previously, conflicting results were observed when adiponectin was studied as a marker of cardiovascular disease. Low serum levels were found to be associated with increased risk of CVD in dyslipidemics and diabetic patients and in healthy subjects as well.14 Contrary to this, other studies shows association of high serum adiponectin level with increased risk of CVD among blacks and elder age groups.15

MATERIALS AND METHODS

This descriptive study was conducted in Ziauddin University Hospital Karachi over a period of 2 years from 1st January 2008 to 31st December 2010. A total of 80 patients were included. All the participants were explained about the study and they gave written informed consent. All the participants were referred by a cardiologist for angiography for their preliminary diagnosis of CAD. A detailed history was taken and subjects were included in the study on the basis of inclusion criteria. Patients of both sexes having CAD with age range between 40-55 years were included in the study. Patients with recurrent surgery, endocrinological disorders, revascularization procedure, and patients taking lipid lowering drugs were excluded from this study. Physical examination of all the participants was done and anthropometric measurements such as height, weight, BMI, hip circumference, waist circumference and WHR was calculated by standard methods.16,17 Blood was collected at time of angiography. Serum sample aliquots were subsequently stored at −70°C to be used in future. Biological assay was performed in a
laboratory of Ziauddin University Hospital. The plasma concentration of adiponectin was determined by a commercially available sandwich ELISA (human Adiponectin ELISA; from Gesendet: Donnerstag (DRG instruments GmbH, Marburg, Germany). Angiography was performed on TOSHIBA infinix 2000A. Coronary guide wires were selected while keeping in mind the anatomy and morphology of coronary lesion. Coronary artery stenosis ≥50% of luminal narrowing was considered significant. Coronary artery occlusion of <50% was considered as hemodynamically non-significant lesion as taken as a control group for comparison in this study. Data was entered in Microsoft Excel and analyzed using SPSS-17. Continuous variables like age, height, weight, BMI, waist circumference, hip circumference, waist hip ratio, and serum adiponectin levels were presented by mean and standard error of mean (SEM). ANOVA was performed to compare mean level among four study groups according to extent of CAD. Regression analysis was done to estimate relationship of serum levels of adiponectin with the extent of CAD. Statistical significance was considered if p ≤ 0.05

RESULTS

Four subgroups were made out of total 80 participants that is non-significant disease group (Subjects whose coronary arteries are <50 % occluded and this group was considered as controls), single vessel disease group, two vessel disease group and three vessel disease group. Out of 80 study subjects, 30 (37.5%) had one vessel, 12 (15%) had two vessels, 24 (30%) had three vessels CAD and 14 (17.5%) had non-significant disease (Fig. 1). Overall mean age of subjects was 48.8±6.1. Analysis of variance (ANOVA) was performed to compare the all included anthropometric parameter in four subgroups groups of patients. Significant effect of larger waist circumference and waist hip ratio (p<0.001) was observed (Table 1).

Table No.1: Biometric measurements according to extent of coronary artery disease

<table>
<thead>
<tr>
<th>Variable</th>
<th>Non Significant (n=14)</th>
<th>One vessel CAD (n=30)</th>
<th>Two vessels CAD (n=12)</th>
<th>Three vessels CAD (n=24)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean±SEM</td>
<td>Mean±SEM</td>
<td>Mean±SEM</td>
<td>Mean±SEM</td>
<td>Mean±SEM</td>
</tr>
<tr>
<td>Age (years)</td>
<td>47.43±1.57</td>
<td>49.13±1.21</td>
<td>49.25±1.51</td>
<td>49.00±1.30</td>
</tr>
<tr>
<td>Height (m)</td>
<td>1.61±0.02</td>
<td>1.62±0.01</td>
<td>1.71±0.02</td>
<td>1.65±0.01</td>
</tr>
<tr>
<td>Weight (kg)</td>
<td>70.14±3.75</td>
<td>71.77±1.39</td>
<td>77.58±2.51</td>
<td>74.71±1.55</td>
</tr>
<tr>
<td>BMI (kg/ m²)</td>
<td>26.84±1.34</td>
<td>27.41±0.71</td>
<td>26.30±0.54</td>
<td>28.03±0.49</td>
</tr>
<tr>
<td>Waist circumference(cm)</td>
<td>85.64±1.53</td>
<td>90.73±1.09</td>
<td>92.67±2.35</td>
<td>94.88±1.29</td>
</tr>
<tr>
<td>Hip circumference(cm)</td>
<td>89.50±1.79</td>
<td>91.83±1.33</td>
<td>90.67±1.71</td>
<td>89.29±0.95</td>
</tr>
<tr>
<td>Waist hip ratio</td>
<td>0.94±0.01</td>
<td>0.98±0.01</td>
<td>1.06±0.01</td>
<td>1.07±0.01</td>
</tr>
</tbody>
</table>

Values are expressed as mean and standard error of mean (SEM)
ANOVA applied
• P value <0.001 statistically significant for larger waist circumference among four study groups.
@ P value <0.001 statistically significant for waist hip ratio among four study groups

It was observed that serum adiponectin levels were highest (5.36±1.17) in subjects who had non significant occlusion (<50%) of coronary arteries and this group is taken as a control group of our study while as the disease progresses in terms of number of coronary arteries involved,levels of adiponectin decreases to 5.13±0.62 in single vessel disease, 2.96±0.30 in two vessel disease and 2.65±0.21 in patients with three vessels coronary artery disease. And this decline in serum adiponectin level is statistically significant at p value of <0.001 in two vessel and three vessel coronary artery disease group when compared with non significant and single vessel disease (Table-2). Figure 2 shows the negative correlation of serum adiponectin level with r value of -0.44 with the extent of coronary artery disease that is with the more number of vessels affected serum adiponectin levels decreases.

Table No.2: Serum adiponectin levels in multivessel coronary artery diseases

<table>
<thead>
<tr>
<th>Study groups</th>
<th>Serum adiponectin levels (μg/ml)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Non significant (n=14)</td>
<td>5.36±1.17</td>
</tr>
<tr>
<td>Single vessel disease (n=30)</td>
<td>5.13±0.62</td>
</tr>
<tr>
<td>Two Vessels Disease (n=12)</td>
<td>2.96±0.30*S</td>
</tr>
<tr>
<td>Three Vessels Disease (n=24)</td>
<td>2.65±0.21*S</td>
</tr>
</tbody>
</table>

*P value <0.001 -Significant compared with hemodynamically non-significant (HNS) group.
$ P value < 0.001 Significant compared with one vessel disease group
DISCUSSION

Adiponectin is the highest circulating adipokine under normal conditions and its concentration decreases in the presence of obesity and its related disorders. Endothelial dysfunction seems to be a pivotal event in the atherosclerotic plaque formation. It can be detected by angiography before appearance of gross morphological changes in the vessel wall. Endothelial dysfunction is a result of an imbalance between endothelial nitric oxide synthase (eNOS) activity and inactivation of nitric oxide (NO) through oxidative stress in the early stages of disease. Adiponectin activates endothelial nitric oxide synthase (eNOS) and eventually production of nitric oxide (NO) in endothelial cells. Adiponectin not only decreases free radicals production but also improves endothelial function in aortas of ApoE KO mice. CAD patients showed significantly lower adiponectin concentrations when compared with those without CAD, concentration of adiponectin was lowest in those presenting with unstable CAD. In another study, Kolliaas et al. 2011 measured decreased plasma adiponectin levels in CAD patients when compared to non CAD subjects (10.9 ± 3.1 vs. 13.8 ± 5.8 μg/ml respectively, p < 0.033). AdipoR1 and AdipoR2 protein levels were decreased in monocytes from CAD when compared to subjects without CAD (59.5 ± 24.9 vs. 80 ± 46 and 70.7 ± 39 vs. 95.6 ± 47.8, p < 0.05).

Our findings are consistent with these studies. According to our study serum adiponectin decreased significantly with the progression of disease that is 2VD and 3VD compared with SVD and non significant group (Table-2). The values of adiponectin are significantly high in hemodynamically non significant (HNS) group and SVD group at the significance level of 0.05. An inverse correlation (r = - 0.44) with serum adiponectin with p value < 0.001 was observed in multivessel coronary artery disease (Figure-2).

CONCLUSION

High serum adiponectin levels can be considered as a marker of cardioprotection as the levels decreases with the involvement of number of coronary arteries and their extent of occlusion.

Author’s Contribution:
Concept & Design of Study: Muhammad Kashif Nisar
Drafting: Muhammad Kashif Nisar
Data Analysis: Erum Afaq, Riaz Ahmed Shahid
Revisiting Critically: Erum Afaq, Riaz Ahmed Shahid
Final Approval of version: Muhammad Kashif Nisar

Conflict of Interest: The study has no conflict of interest to declare by any author.

REFERENCES

Cytological Study of Thyroid Lesions by Fine-Needle Aspiration Cytology

Inayatullah Memon¹, Muhammad Hanif Memon² and Attiya Memon¹

ABSTRACT

Objective: The present study assessed the cytological and morphological features of thyroid swellings by FNA cytology (FNAC) at a tertiary care hospital of Sindh.

Study Design:

Place and Duration of Study: This study was conducted at the Department of Surgery and Pathology, Indus Medical College Hospital from January 2016 to Dec 2017.

Materials and Methods: A sample of 90 cases of thyroid enlargement was selected according to inclusion and exclusion criteria. Demographic characteristics were noted by clinical history. FNAC was performed by senior surgeon and cytological examination by a senior pathologist. Data was analyzed on SPSS 22.0 at 95% confidence interval (p ≤0.05).

Results: Mean± SD age was noted as 43.56±19.6 years. Of 90 cases, male and female were 33 (36.6%) and 57 (63.3%) respectively (p=0.0001). Of 90 cases, the non-neoplastic, neoplastic and indeterminate lesions were noted in 69 (76.6%), 15 (16.6%) and 6 (6.6%) respectively.

Conclusion: FNAC is a cost effective, uncomplicated and safe diagnostic procedure which may be used for the pre-operative screening of thyroid diseases in poor countries like Pakistan.

Key Words: Thyroid Nodules, FNAC, Cytology, Sindh

INTRODUCTION

Thyroid nodules, particularly the thyroid swellings (Goiter), are frequently encountered disorders in the clinical practice. They present clinically as neck swellings. Thyroid nodules create panic and apprehension because their unpredictable behavior. Several non-invasive screening techniques are available for the thyroid lesions such as thyroid scanning, sonography etc. However, these techniques are not efficient in distinguishing benign and malignant thyroid nodules. A need of a non-invasive modality which can be employed before procedures always knocks the minds of clinicians to differentiate the benign and malignant thyroid nodules. Fine needle aspiration cytology is the answer to this lacunae. Now the FNAC has nearly halved the need of thyroid surgeries for diagnostic purpose, since it has proved robust screening test around the world. FNAC is a useful screening and diagnostic tool for thyroid nodules. Many cases of unsuspected thyroid cancer have been diagnosed by FNAC which is proved helpful for the clinicians. FNAC has proved superior to other non-invasive techniques such as the thyroid scanning, radionuclide and sonography assessment. FNAC is a safe cost effective procedure in the outpatient’s surgical departments. It is minimally invasive procedure that is useful for the aged and pregnant female equally. Now FNAC is a standard surgical procedure for screening of thyroid nodules. The sensitivity and specificity of FNAC averages 83% and 92% respectively for thyroid malignancies. FNAC needs simple materials and a trained pathologist / surgeon for aspiration of nodules. Aspiration technique is very simple and similar is the interpretation of the cytological findings. FNAC is useful for the diagnosis of thyroid nodules, both benign or malignant, autoimmune disorders and cysts, etc. The FNAC is used primarily for the exclusion of malignant thyroid nodules. Standard taxonomy of FNAC interpretation was designed by the NCI (National Cancer Institute), Thyroid FNA State-of-the-Science Conference. The NCI has standardized the interpretation of FNAC which is very helpful for the clinicians. A previous report, studied 284 cases, included children and adolescents with palpable thyroid lesions, concluded that FNAC is a useful screening test. The present study was conducted to revisit the diagnostic utility of fine needle aspiration cytology at our tertiary care hospital. The present study will be helpful for clinicians to use the FNAC with confidence as cost effective, minimally...
invasive and simple screening test for the thyroid lesions.

MATERIALS AND METHODS

The present case control study was conducted at the Department of Surgery and Pathology, Indus Medical College Hospital from January 2016 to Dec 2017. A sample of 90 cases of thyroid enlargement was selected according to inclusion and exclusion criteria. Diagnosed cases of thyroid disease of age >20 years was the inclusion criterion. Demographic characteristics were noted by clinical history. FNAC was performed by senior surgeon and pathologist, while cytological examination by expert pathologist. Materials used include the 22 G needle, a 5 ml and 10 Disposable syringes (BD, USA). Thyroid gland lesions were examined and findings were noted in a predesigned proforma. Patients were lying in the supine position with pillow under shoulder blades and neck to extend the head and neck. Site for FNAC was cleaned with antiseptic spirit swab. For thyroid nodules of < 1.5 cm, the technique of “to and fro movements” of the needle within the nodule was used. While for the larger thyroid nodules, the peripheral sub-capsular part of nodules were aspirated rather than the center. A minimum of 3 phases were performed and fluid obtained was aspirated. Multiple smears with minimum 4–5 smears were made. The smears were fixed on slides fixative alcohol for Papanicolaou staining. Air-dried smears were stained with May–Grunwald Giemsa stain. A smear was considered “adequate” when: 1). 5–6 groups of follicular epithelial cells with 10 or more cells/group were observed / well preserved, or 2). 10 large clusters of follicular epithelial cells with >20 cells each of 3). 6 groups of follicular epithelial cells on at least 2 of 6 aspirates; and 4). At least 8-10 fragments of well-preserved tissue on each of two slides were noted. Smear findings were observed and interpreted in the clinical context to avoid any discrepancy, because cysts and colloid goiter yield scanty smears with very few cells that would be considered cytological non-diagnostic but that is consistent with the clinical history of lesion. Data was analyzed on SPSS 22.0 statistical software. Ethical approval and patient consent was mandatory. Student’s t test and Chi square test were used for the continuous (for example age) and categorical variables (for example gender) analysis respectively. Statistical analysis was performed at 95% confidence interval (P ≤ 0.05).

RESULTS

The mean± SD age was noted as 43.56±19.6 years. Of 90 cases, male and female were 33 (36.6%) and 57 (63.3%) respectively (X²= 11.56, P= 0.0001). Male to female ratio was 1:1.72. Rural population predominated comprised 67 (74.4%) compared to 23 (25.5%) urban population. Of 90 cases, the non-neoplastic, neoplastic and indeterminate lesions were noted in 69 (76.6%), 15 (16.6%) and 6 (6.6%) respectively. Non-neoplastic lesions observed include the; cyst in 9 (13%), colloid goiter in 19 (27.5%), nodular goiter in 21 (30.4%), de Quervain’s thyroiditis in 2 (2.8%), Hashimoto’s thyroiditis in 11 (15.9%) and inconclusive FNAC results were found in 7 (10.1%) cases.

Table No.1: Demographic distribution and thyroid lesions in study subjects (n=90)

<table>
<thead>
<tr>
<th>Age</th>
<th>No.</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>20-29.9 years</td>
<td>19</td>
<td>21.1</td>
</tr>
<tr>
<td>30-39.9 years</td>
<td>30</td>
<td>33.3</td>
</tr>
<tr>
<td>≥ 50 years</td>
<td>16</td>
<td>17.7</td>
</tr>
<tr>
<td>Male</td>
<td>33</td>
<td>36.6</td>
</tr>
<tr>
<td>Female</td>
<td>57</td>
<td>63.3</td>
</tr>
<tr>
<td>Rural</td>
<td>67</td>
<td>74.4</td>
</tr>
<tr>
<td>Urban</td>
<td>23</td>
<td>25.5</td>
</tr>
</tbody>
</table>

Table No.2: Distribution of non-neoplastic thyroid lesions in study subjects (n=69)

<table>
<thead>
<tr>
<th>Lesion</th>
<th>No.</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cysts</td>
<td>9</td>
<td>13.0</td>
</tr>
<tr>
<td>Colloid Goiter</td>
<td>19</td>
<td>27.5</td>
</tr>
<tr>
<td>Nodular Goiter</td>
<td>21</td>
<td>30.4</td>
</tr>
<tr>
<td>de Quervain’s thyroiditis</td>
<td>2</td>
<td>2.8</td>
</tr>
<tr>
<td>Hashimoto’s thyroiditis</td>
<td>11</td>
<td>15.9</td>
</tr>
<tr>
<td>Inconclusive</td>
<td>7</td>
<td>10.1</td>
</tr>
</tbody>
</table>

DISCUSSION

The present is the first study from our tertiary care hospital reporting on the FNAC in thyroid nodule cytological examination. Thyroid swellings (Goiter) are common cases presenting in the routine surgical practice. As the thyroid nodules create panic and apprehension because of suspicious malignancy. Hence a simple, easy and cost effective screening test...
certainly helps the poor population of developing countries like Pakistan. The present study proves the diagnostic significance of FNAC in differentiating the benign and malignant thyroid lesions. FNAC is a minimally invasive easy to perform technique, useful in distinguishing benign and malignant thyroid swellings. Thyroid swelling may be solitary nodule or diffuse enlargement needs to be investigated to rule out the possibility of thyroid malignancy.\textsuperscript{11} At present, the FNAC has proved an effective diagnostic tool in thyroid nodule screening. Main purpose of FNAC is to provide a rational approach for the diagnosis to determine the correct surgical procedure. The FNAC primarily aids in investigating the thyroid nodules in addition to the sonography, thyroid function tests, scanning and antibody profile, to reach to the diagnosis and planning a decisive surgical procedure.\textsuperscript{11,13} FNAC is to handpick the cases that can be treated surgically or conservatively without major cost. Use of different interpretation criteria of FNAC creates problems of true diagnosis; this creates confusion amongst the clinicians. Ultimate result of this discrepancy is a definitive diagnosis is not possible. In the present study, the average age of thyroid lesion patients was 3\textsuperscript{rd} to 4\textsuperscript{th} decade of life; the findings are in agreement with previous studies.\textsuperscript{14,15} In the present study, of 90 cases, the non-neoplastic, neoplastic and indeterminate lesions were noted in 69 (76.6%), 15 (16.6%) and 6(6.6%) respectively. Non-neoplastic lesions observed included the; cyst in 9 (13%), colloid goiter in 19 (27.5%), nodular goiter in 21(30.4%), de Quervain’s thyroiditis in 2 (2.8%), Hashimoto’s thyroiditis in 11 (15.9%) is in agreement with previous studies.\textsuperscript{17,18} But a peculiar ethnicity hence findings should be cautiously interpreted for other geographical areas and ethnic groups.

### CONCLUSION

Fine needle aspiration cytology (FNAC) is a cost effective, minimally invasive and safe diagnostic procedure for the pre-operative screening of thyroid nodules in developing countries like Pakistan. FNAC may be used as a minimally invasive technique for the triage of patient screening and surgery of thyroid lesions. FNAC is a useful primary investigative modality that should be used for palpable thyroid nodules in surgical practice.

#### Author's Contribution

**Concept & Design of Study:** Inayatullah Memon  
**Drafting:** Muhammad Hanif Memon  
**Data Analysis:** Attiya Memon  
**Revisiting Critically:** Inayatullah Memon  
**Final Approval of version:** Attiya Memon

#### Conflict of Interest

The study has no conflict of interest to declare by any author.

### REFERENCES

Risk Factors & Outcome in Patients Admitted with Status Epilepticus in Tertiary Care Hospital

Dileep Kumar¹, Babar Bashir², Suresh Kumar², Amrat Kumar², Munir Hussain Siddiqui³, Shahid Iqbal⁴

ABSTRACT

Objective: To determine the outcome of status epilepticus in patients admitted with seizure in tertiary care hospital.

Study Design: Cross sectional study

Place and Duration of Study: This study conducted at the LGH & JPMC, Karachi from January 2016 to October 2016.

Materials and Methods: Total 108 patients included in the study after informed consent in written form. Patients included in the study who fulfill the inclusion criteria.

Data was collected in preform proforma in 108 cases following the selection criteria. Patients were recruited after informed consent of the patients and ethical approval from the institution. The patients were followed till discharge and all the information collected in preformed proforma. Standard protocol followed for the treatment of status epilepticus. Outcome measured in the form of fully recovered, recovered with neurological deficit & death.

The data were analyzed on version 17. Descriptive statistics was used to summarize the categorical variables such as gender, history of epilepsy, status epileptic in past, drug withdrawal, febrile illness, mortality presented as frequencies and percentages while continuous variable like age was presented as Mean ± SD. Chi-square test p-value ≤ 0.05 was taken as significant.

Results: Among 108 patients 60(56.6%) were male & 48(44.4%) were female, mean age of study group were 31.3 ± 13.5 years. The results found that only 2 (1.9%) patients were expired (p < 0.01) while 106 patients fully recovered without any neurological deficit.

Conclusion: We concluded after this study that early recognition & prompt treatment of the epileptic patients in status epilepticus have better outcome.

Key Words: Status Epilepticus, Convulsive Status Epilepticus, outcome.

INTRODUCTION

Status epilepticus (SE) is defined as recurrent epileptic seizure without complete recovery between seizures or continuous seizure activity that lasts 30 minutes or longer whether or not consciousness in impaired¹. SE is one of the most common neurological emergencies in adults². The annual incidence of SE ranges from 10 to 41 per 100,000 and it is estimated that worldwide there are 3 million cases annually³.

SE can be classified on the basis of its clinical characteristic as generalized convulsive, subtle and nonconvulsive⁴. The most common and life threatening form of SE is generalized convulsive SE (GCSE). GCSE is characterized by paroxysmal or continuous tonic and/or clonic motor activity associated with marked impairment of consciousness⁵. Refractory status epilepticus is defined as continued seizures after three antiepileptics had failed whereas nonconvulsive status epilepticus is characterized of typical seizure activity⁶. Common precipitants of SE includes central nervous system infection, cerebrovascular accidents (CVA), metabolic derangement and anti-epileptic drugs withdrawal ⁷ or underlying diseases⁸. The morbidity and mortality of GCSE is high and associated with either inappropriate in Status epilepticus (SE) is a common, life-threatening neurologic disorder. It is essentially an acute, prolonged epileptic crisis. Generalized convulsive SE is the most frequent and potentially dangerous type of SE. Generalized refers to the abnormal excessive cortical electrical activity, while convulsive refers to the motor activity of a seizure. SE particularly GCSE is associated with high mortality and
neurological sequelae. Early recognition and proper management not only prevent mortality but also reduced neurological disability. On robust literature search only limited data was found on outcomes of GCSE and studies were carried out in children’s. This provides us a strong rationale to conducted the study in adults looking at the outcomes of GCSE is our population so as to reduce the adverse consequences of status of epilepticus.

MATERIALS AND METHODS

This descriptive / cross sectional study was conducted at LGH &JPMC Karachi from 01-01-2016 to 31-10-2016. There was purposive sampling with 108 patients. Inclusion criteria: Patients of either gender with age >15 years with status epilepticus Exclusion criteria: Patients age <15 years & Non convulsive status epilepticus

Data Collection: This study was conducted after the approval from hospital ethical review committee. Patients were approached through emergency department, medical wards & neurology department. All the patients who fulfill the inclusion criteria were enrolled in the study after informed written consent and explanation of the study protocol. A detailed clinical history and relevant neurological examination was performed. The relevant biochemical test (CBC, Blood sugar, UCE, S.Ca, S. Mg, LFTs), CT/ MRI & EEG was performed in the study group. Standard protocol followed for the treatment of status epilepticus. All the data collected in preformed proforma. All the patients were observed for one week.

Data Analysis Procedures: All the collected data was entered and analyzed in SPSS version 17.0. Descriptive statistics was used to summarize the categorical variables such as gender, history of epilepsy, status epileptic in past, drug withdrawal, febrile illness, mortality presented as frequencies and percentages while continuous variable like age was presented as Mean ± SD. Stratification was done to control the effect of modifier like age, history of epilepsy and status of epileptic in past on outcome variable through Chi-square test p-value ≤ 0.05 was taken as significant.

RESULTS

A total of 108 patients were included in this study who fulfilling the inclusion criteria. The overall mean age of these patients was 31.3 ± 13.5 years as shown in figure I. The age range of these patients was 16 to 76 years. Seventy six (70.4%) patients had age between 16 to 35 years as shown in figure 2.

Table No.1: Status epilepticus Risk factors & outcome

<table>
<thead>
<tr>
<th>Risk factors</th>
<th>No. of patients</th>
<th>Percentage %</th>
<th>Outcome</th>
</tr>
</thead>
<tbody>
<tr>
<td>Drug with drawl</td>
<td>56</td>
<td>60.4%</td>
<td>Improved</td>
</tr>
<tr>
<td>CNS Infections</td>
<td>28</td>
<td>28.8%</td>
<td>Improved</td>
</tr>
<tr>
<td>CVA (Ischemic Stroke)</td>
<td>4</td>
<td>4.3%</td>
<td>Improved</td>
</tr>
<tr>
<td>CVA Hemorrhagic stroke</td>
<td>2</td>
<td>2.1%</td>
<td>Expired</td>
</tr>
<tr>
<td>Hypoglycemia</td>
<td>5</td>
<td>5.4%</td>
<td>Improved</td>
</tr>
<tr>
<td>SOL</td>
<td>4</td>
<td>4.3%</td>
<td>Improved</td>
</tr>
<tr>
<td>Electrolyte imbalance</td>
<td>4</td>
<td>4.3%</td>
<td>Improved</td>
</tr>
<tr>
<td>HTN encephalopathy</td>
<td>3</td>
<td>3.2%</td>
<td>Improved</td>
</tr>
<tr>
<td>Alcohol overdose</td>
<td>2</td>
<td>2.1%</td>
<td>Improved</td>
</tr>
<tr>
<td>Hypocalcaemia</td>
<td>2</td>
<td>2.1%</td>
<td>Improved</td>
</tr>
</tbody>
</table>

Table No.2: Distribution of patients according to various parameters\& Outcome

<table>
<thead>
<tr>
<th>Variables</th>
<th>Expired</th>
<th>Fully improved</th>
<th>p-values</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender</td>
<td>Yes</td>
<td>No</td>
<td>0.20</td>
</tr>
<tr>
<td>Male</td>
<td>2 (3.3)</td>
<td>58 (96.7)</td>
<td></td>
</tr>
<tr>
<td>Female</td>
<td>0</td>
<td>48 (100)</td>
<td></td>
</tr>
<tr>
<td>Age Group</td>
<td></td>
<td></td>
<td>&lt;0.01</td>
</tr>
<tr>
<td>16 – 35</td>
<td>0</td>
<td>76 (100)</td>
<td></td>
</tr>
<tr>
<td>36 – 55</td>
<td>0</td>
<td>25 (100)</td>
<td></td>
</tr>
<tr>
<td>56+</td>
<td>2 (28.6)</td>
<td>5 (71.4)</td>
<td></td>
</tr>
<tr>
<td>History of epilepsy</td>
<td>Yes</td>
<td>No</td>
<td>0.71</td>
</tr>
<tr>
<td>Yes</td>
<td>2 (2.0)</td>
<td>99 (98.0)</td>
<td></td>
</tr>
<tr>
<td>No</td>
<td>0</td>
<td>7 (100)</td>
<td></td>
</tr>
<tr>
<td>Status of epilepticus in past</td>
<td>Yes</td>
<td>No</td>
<td>0.49</td>
</tr>
<tr>
<td>Yes</td>
<td>2 (2.3)</td>
<td>86 (97.7)</td>
<td></td>
</tr>
<tr>
<td>No</td>
<td>0</td>
<td>20 (100)</td>
<td></td>
</tr>
</tbody>
</table>
There were 60 (55.6%) males and female 48 (44.4%) patients as shown in figure III.History of epilepsy was found in 106 (93.5%) of the patients, 88 (81.5%) of the patients had status epilepticus in past, 56 (60.4%) of the patients had drug withdrawal, 26 (28.8%) of the patients had CNS infections, Six patients (6.4%) had CVA among them 02 patients(2.1%) had intracereberal bleed & both were expired while 04 patients (4.3%) had ischemic infarct, Five patients (5.4%) had hypoglycemia. Space occupying lesion was seen in 04 patients (4.3%), hypertensive encephalopathy was seen in 03 (3.2%) patients while 02 (2.1%) were alcoholic over dosage& in 02(2.1%) patients hypocalcaemia was seen table I. Two patients (2.1%) had expired as shown in table I& II.There was no statistical significance proportion difference was observed when compared gender, history of epilepsy and status of epilepticus in past by mortality (p-values >0.05). Statistical significance proportion difference (p-value <0.05) was found in age & in hospital mortality as shown in table I.

DISCUSSION

Status epilepticus is the life threatening condition &potentially reversible if early treatment is given to these patients. Previously related studies have been done on childhood group in comparison to adults & with this aim we planned & gather some data in adults to determine the clinical profile, risk factors by whom patients developed this condition & outcome of SE. In our study the mean age was 31.3 ± 13.5 years & the male gender more affected(56.4%, p< 0.2), the mean age smaller than other similar studies9,10 in which mean age was 37.5 & 39 years but the male gender was predominant in these studies(53.4%)9,10 & in other study male to female ratio was 4:1 the reason of difference in mean age because of small sample size in our studywhile the other studies done on large scales. Status epilepticus more common we observed in our study was 15- 35 years’age group (70.4%, p <0.01) and the outcome was also better in this age group as compared to the age group more than 56+ years as in our study 02 patients expired(2.1% p< 0.01) the reason we observed in this age group patients usually have comorbidities like DM, HTN, CKD& in our study both patients were hyperuricic & had massive intracerebral bleed which also be supported in other studies11. Regarding the past history of epilepsy, it was presence in 93.8% patients & 88 patients had past H/O status epilepticus which is slightly higher in comparison to in one previous study that was 80%10 & in other one it was in 60% patients11. The reason of difference in our setup was the patients quit antiepileptic drugs without any consultation or advise which we observed in our study that 60.4% patients had SE because of stop their AED& this also can be seen in other studies15,16. The other common cause by which patients developed SE was infections most of the infection were CNS but the other areas of body also susceptible of infections as we observed in 26 (28.8%) patients which also be supported in previous similar study10 in which it was presence in 32.7%.Stoke17 was another common risk factor especially in patients who had massive ICB & the outcome is also poor in these patients as 02 patients was expired in our study (2.1% p< 0.01) while small bleed & ischemic infarct has better outcome. Hypoglycemia was also potential risk factor but rapid therapy gives excellent outcome as in our study 05 patients was with hypoglycemia as all the patients fully improved. Among other less common risk factors SOL was also seen in 04(4.3%)patients& after initial therapy & improvement patients was referred to neuro surgical department for specific treatment, electrolyte imbalance especially hyponatremia &hypocalcaemia can cause seizures and need to treated as earlier to prevent permanent hypoxic brain injury. Regarding the outcome of SE after the standard protocol of SE treatment it was 2.1% (p <0.01) and the age group was above 56+ years & rest of the patients fully improved without any neurological deficit, in other study10, in which the mortality was 3.4% which is slightly higher & probably the reason were large sample size while in
another study regarding the outcome of SE mortality was observed in 14%, partial recovery in 30% while 35% of patients were fully improved. The predictors of mortality in one study were hypoxic brain injury OR= 9.85, CVA= 2.8, female sex= 1.34 & other comorbidities OR= 6.7.

CONCLUSION

We conclude after this study that it is necessary to properly educate & counsel these patients for strictly adherence to the anti-epileptic drugs as we observed it is the common precipitating factor of status epilepticus, along with this the other potentially reversible risk factors should be addressed & treated promptly for better outcome.

Author’s Contribution:
Concept & Design of Study: Dileep Kumar, Babar Bashir
Drafting: Dileep Kumar, Babar Bashir
Data Analysis: Suresh Kumar, Amrat Kumar
Revisiting Critically: Shahid Iqbal, Dileep Kumar
Final Approval of version: Munir Hussain Siddiqui

Conflict of Interest: The study has no conflict of interest to declare by any author.

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Maternal Exposure to Steroid, Unknowing by Taking Medicine from Religious Ammil for Birth of Boy and the Risk of Oral Cleft in Newborn

Riasat Ali Nehra¹, Raafea Tafweez² and Noor ul Mobeen³

ABSTRACT

Objective: The aim of present study was to find out a relation between environmental factors (steroid) and formation of Cleft Lip and Palate (CLP) by comparing the cases of CLP with controls.

Study Design: Convenient Sampling, Case control.

Place and Duration of Study: The study was conducted at the Mayo Hospital Lahore, Children Hospital Lahore and Arif Hospital, Rashid Latif Medical College from 1st January 2014 to 31st December 2014.

Materials and Methods: It was a convenient sampling, case control study, one hundred cases of Cleft Lip and Palate newborns up to age of six months, in different Hospitals of Lahore, having facilities of treating CLP. Antenatal history was taken in first three months of pregnancy from mothers about taking medicine from religious Ammil for birth of male baby.

Results: The frequency of CLP was found to be significantly higher in mothers who were taken medicine from religious Ammil for birth of boy (12% as compared to 7.4% of controls).

Conclusion: Medicine taken from Religious Ammil during the first trimester of pregnancy resulted in increased frequency of CLP in newborns.

Key Words: Cleft lip, Cleft palate, Environmental factors (Medicine taken from religious Ammil)


INTRODUCTION

Earlier people do not know about human development. They believe on religion and false notions. First time Fabricius ab Aquapendente (1537-1619) revealed that CLP was due to intrauterine defective development of fetus. A physician in China acquired skill to correct the CL in 390 BC. First patient who operated for CLP was a China’s person, Wey Young Chi 18 years old. A baby born with CLP has many problems. 1st is the feeding difficulty, baby in CLP feed slowly or bring up milk through nose, then speech and language problems. Hearing problem due to wet ear is also common. Later on jaw and teeth problems develop, with some missing teeth or added teeth, psychological problem is very vital and is a problem for baby to adjust in society.

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Head and face is developed from five primordial prominences.
1. Fronto-nasal prominence.
2. Two Maxillary prominences, one from each cheek unite with fronto-nasal prominence and form the upper lip.
3. Two mandibular prominences form lower lip. Premaxillary part is in front of incisive fossa, which constructs the anterior palate. Palate is formed after the upper lip development, during union of palatine shelves above tongue different teratogenic agents externally and internally can affect this union and cleft is formed.

**Classification of cleft lip and palate**

a) According to location, relative to incisive fossa as
- Primary anterior to the fossa
- Secondary posterior to the fossa
b) Unilateral and bilateral, which are further sub classified into three groups. Pre alveolar, post alveolar and alveolar.

c) According to the structures involved.
- Complete (soft and hard palate)
- Incomplete (simple hole in roof of the mouth, split uvula and sub mucus cleft palate (SMCP).

A microform cleft is a mild form of CL, which can appear as small as a little dent in the upper lip, which looks like a scar from nostril to the lip.

**Figure No.1: Unilateral and Bilateral Cleft Lip**

Clefts can occur on other parts of face also, e.g. Paul Tessier’s clefts.

A considerable numbers of cases of CLP have associated abnormalities. Number of anomalies in newborn babies varies from as low as 4.3% to as high as 63.4%, whereas in CP this is 47% out of which 3% are skeletal.

Most common anomalies reported are of central nervous system & skeletal system followed by urogenital & cardiovascular system. Preterm born babies have 25% allied anomalies. Babies having both CLP and 38% allied anomalies, a study revealed in Sweden, in which cardiovascular deformity was found 24% and multiple deformities 15%.

It was observed that 10% of congenital anomalies are environmental, 10% are genetic, but 80% are due to both genetic and environmental complex.

**MATERIALS AND METHODS**

**Study Settings:** Newborns with Cleft Lip or Cleft palate alone or both visited with their mothers in different teaching hospitals of Lahore with facility of treating CLP under six months of age from 1st January 2014 to 31 December 2014. Diagnosis of CLP was confirmed by concerned doctor. Case and controls with Genetic history and cousin marriage were not taken, cases and controls with consent from their mothers or relatives were taken. It was case control study with convenient sampling. This study has been approved by King Edward Medical University Lahore, Advanced Board of Study in December 2013.

**Interview:** Mothers of study subjects were interviewed according to designed Questioners and set proforma, with demographic, medical, obstetric history, habits and occupation and use of medicine from religious Ammil for birth of male baby during 1st trimester of pregnancy. After taking history of mothers, cases were examined, diagnosis was confirmed by concerned specialist and photographs were taken.

**Data analysis:** Odds Ratio was estimated and 95% confidence intervals and SPSS, 20.00. Duration of exposure was described by Mean ±SD.

**RESULTS**

**Figure No. 2: Bilateral Cleft Lip not United with Nasal Septum, Anterior and Posterior Cleft Palate**
Identification of environmental factors are crucial in order to formulate prevention strategies. Maternal exposure to steroid unknowingly from religious Ammil or quakes have been associated with cleft lip and palate. There were 12% mothers of cases and 7.4% mother of control gave history of taking medicine from religious Ammil for birth of male baby during their pregnancy. Odds ratio was significant showing 1.71 times more risk if the mother took medicine from religious Ammil for birth of boy during pregnancy.

**Table No.1:** Association of “use of medicine during pregnancy for birth of boy from religious Ammil”

<table>
<thead>
<tr>
<th></th>
<th>Cases</th>
<th>Control</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>12%</td>
<td>37(7.4%)</td>
</tr>
<tr>
<td>No</td>
<td>888%</td>
<td>463(92.6%)</td>
</tr>
<tr>
<td>Total</td>
<td>100</td>
<td>500</td>
</tr>
</tbody>
</table>

Odds Ratio = 1.7

**DISCUSSION**

Different countries studies have different findings relevant to this study. A number of environmental factors have been concerned in the formation of cleft lip and or palate. Medicine taken by Religious Ammil possibly steroids for birth of boy has been considered as a possible etiological factor increasing the incidence by 1.71. Ammil mostly gives steroid which break the circuit of genes which act on growth factor; a protein that acts on cell division and normal palate development is affected leading to CLP. A relation of systemic use of steroid and cleft palate has been shown (Odds ratio 2.59). In pradat P and kallen B studies. These studies are comparable with our study.

**CONCLUSION**

In conclusion, this study demonstrated the role of environmental factors in this geographical area for orofacial cleft forming. In the light of these results it is advisable to develop health care strategies and awareness programs for population at large and specifically for pregnant mothers.

**Author’s Contribution:**
- Concept & Design of Study: Riasat Ali Nehra
- Drafting: Riasat Ali Nehra
- Data Analysis: Raafea Tafweez
- Revisiting Critically: Noor ul Mobeen
- Final Approval of version: Riasat Ali Nehra

**Conflict of Interest:**
The study has no conflict of interest to declare by any author.

**REFERENCES**

Objective: To estimate the frequency and Types of Commitant Convergent squint among patients attending EYE OPD at Mardan Medical Complex Teaching Hospital Mardan.

Study Design: Descriptive study

Place and Duration of Study: This study was conducted at the MMCTH Mardan from September 2016 to October 2016.

Materials and Methods: Fourteen Hundred and Two Patients were examined. Thirty Nine Patients were having Strabismus which were included in this study.

Results: Total numbers of patients were 39 with commitant convergent squint, in which 25 had Accommodative esotropia, 03 had infantile esotropia, 03 had Residual esotropia, and 03 had constant esotropia with amblyopia. 18 patients were male and 21 were female. 29 patients needed glasses i.e squint associated with refractive error and 10 patients were refer for surgery.

Conclusion: The commonest type of squint is accommodative esotropia. Infantile type follows second. Most of the commitant convergent squint cases were children under 09 years of age.

Key Words: Strabismus (squint), commitant convergent squint (esotropia), Accommodative esotropia, infantile esotropia,

INTRODUCTION

Strabismus is a condition in which the visual axes assume a position relative to each other different from normal physiological conformity. It is an imbalance of eye muscles where one eye cannot properly align on an object with the other eye. 1 It is a condition of crossed eyes in which the angle of squint is the same in all directions of gaze for a given testing distance. 2 Amblyopia may cause strabismus and vice versa. Strabismus starts in infancy and early childhood and if left untreated it can cause deep amblyopia and dipostural changes. 3 Strabismus affects 2 to 5% of children in Pakistan. The prevalence of squint is 5.4% in a country in which 2.5% of patients are under 3 years of age and 2.9% are over 5. 4 More than half of misaligned eyes are because of convergent squint in the United States and the prevalence of esotropia constituted 75% of the total. 5 In central Africa esotropia accounts for 80% of the total cases. 6 Esotropia was five times more common in the United Kingdom whereas exotropia to esotropia was 7:1 in singaporean children. 7 Accommodative esotropia is a form of strabismus caused by reflective error in one or both eyes.

MATERIALS AND METHODS

It is a hospital based descriptive study in which we estimate the frequency and type of commitant conversion squint among all age group patients attending eye OPD in MMCTH Mardan. Patients having some mental disorders or with other associated systemic illness and old patients are excluded.

RESULTS

Total ophthalmic patients were 1402, out which 39 patients have commitant convergent squint. Among 39, 18 were male and 21 were female. 25 patients have accommodative esotropia, 05 have infantile esotropia and 03 have residual. 03 patients have acquired non-accommodative esotropia and 03 have constant esotropia with amblyopia. 29 patients need glasses and 10 need surgery.

Table No. 1: Patients with squints

<table>
<thead>
<tr>
<th>Total Patient</th>
<th>Patients with squints</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>1402</td>
<td>39</td>
<td>2.78%</td>
</tr>
</tbody>
</table>

Male to female ratio in our study was 21 (53.84%): 18 (45.15%). Most frequently occurring defect was accommodative esotropia as a cause of comitant convergent squint. Sixty four percent patients were having accommodative esotropia. The defect of accommodative squint starts in infancy with an average age of 2-3 years[12]. Presentation of strabismus can some time be delayed upto 07 years of age [13]. Uncorrected refractive error is the basic mechanism or an abnormal accommodative convergence relationship. This is associated with hyperopia which reduces the angle and/ or frequency of esotropia when the hyperopic correction is worn [14]. Our study showed frequency of comitant convergent squint to be 2.5%. It is similar to the prevalence of strabismus in pakistan [15]. Infantile esotropia was present in 12.82% of cases and comes second in the list. Louwage CR and Greenberg AE also published that accommodative esotropia and infantile esotropia are the commonest types of squints in their population based studies[16][17]. Etiology is not known but several factors can be involved including genetic predisposition, neurological disorders, prematurity, hydrocephalus, seizure disorders, family history of strabismus, excessive tonic convergence or uncorrected hyperopia. Most of the patients of comitant convergent squint were under 09 years of age [18]. If left untreated these squints in early years can cause amblyopia, refractive errors and postural changes.

CONCLUSION

Accomodative esotropia and infantile esotropia are the most common types of comitant convergent squints. As most of the patients are young, therefore early detection of strabismus can reduce the chances of constant esotropia, postural changes, and keep amblyopia.

Author’s Contribution

Concept & Design of Study: Muhammad Tariq
Drafting: Muhammad Tariq
Data Analysis: Muhammad Tariq, Hira Ali
Revisiting Critically: Hira Ali
Final Approval of version: Muhammad Tariq

Conflict of Interest: The study has no conflict of interest to declare by any author.

REFERENCES

Objective: This study was planned to compare and correlate the potential role of resistin in obese patients with T2DM and obese non-diabetic controls and also to evaluate the correlation between resistin and marker of obesity and lipid profile.

Study Design: Comparative study

Place and Duration of Study: This study was conducted at the Department of Medicine at Lahore General Hospital; Lahore affiliated with Postgraduate Medical Institute, Lahore from January 2016 to March 2017.

Materials and Methods: This study was conducted in Physiology Department of Postgraduate Medical Institute Lahore. In this study we also collaborate with Medicine department of General Hospital of Lahore. In this study we had taken 80 (Eighty) male and female obese patients. The patients have not taken any medicine during study. We have not considered pregnant women. The range of age was thirty to fifty five (35 to 55) years.

Results: In type 2 diabetic patients we found high level of Serum resistin i.e (38±8 ng/ml) as compare to controls. Serum cholesterol (208 ± 70 mg/dl), serum triglycerides(188 ± 74 mg/dl), serum LDL(160 ± 37 mg/dl) was significantly higher in diabetic obese Patients. Serum HDL (38 ± 15) mg/dl) was significantly low in diabetic subjects. Pearson’s analysis revealed significant correlation between serum resistin and serum triglycerides in both groups. A negative correlation was seen between serum resistin and serum HDL in both groups.

Conclusion: Resistin may have a role in disrupting lipid parameters thus leading to insulin resistance in diabetes mellitus in obese subjects or vice versa. We should try to control hormone such as resistin it will be helpful to control diabetic obese patients with dyslipidemia

Key Words: Diabetes mellitus, Dyslipidemia, Resistin, Obesity


INTRODUCTION

Lipotoxicity is result of accumulation of fat in pancreas, muscle and liver cells it is due to defects in lipid metabolism. Increased lipid anabolism and uptake of fatty acids involved in above mentioned abnormalities. Uptake of fatty acids and oxidation of fatty acids abnormality caused accumulation of diacylglycerols, ceramide and acyl-CoA (metabolites of fatty acids) and fatty acids in cells of specified organs. The metabolites inhibit the phosphorylation process of receptors (insulin receptor substrates) and tyrosine (IRS-1 and IRS-2) caused insulin resistance by inhibiting insulin-mediated glucose uptake. Type 2 diabetes mellitus one of many reason is abnormal lipid metabolism which caused increased serum FFA.

When in serum HDL (high density lipoprotein cholesterol) is high in combination of LDL (low density lipoproteins) and FFA (free fatty acids) and TG (triglycerides) ultimately caused Dyslipidemia. Hormonal abnormality affects the lipid metabolism enzyme which caused excess circulation of FFA ultimately TG is accumulated in cells of (liver and muscle) which is the main reason of to insulin resistance. The abnormality of Lipoprotein such as (HDL) caused decreased level of HDL-C which is also link with decreased level of Apo-A. Apo-A production is decreased in liver cells due to high supply of TG and HDL particles with breakdown of HDL particles. One hormone which is found in adipose tissue of rodents and also in human beings Resistin (polypeptide cysteine-rich). It is said that this hormone which is protein in nature caused enhancement of FFA by different mechanism. It is also decreased the absorption of FFA from muscle cells and also affect fatty acid re-esterification in adipose tissue. The one of reason in many that AMPK i.e phosphorylation reduction decreased lipogenesis ultimately increased FFA. The aim of our study is to measure correlation, between serum resistin, insulin resistance, and dyslipidemia in obese non-diabetics and obese type 2 diabetics.
MATERIALS AND METHODS

This study was conducted in Physiology Department of Postgraduate Medical Institute Lahore. In this study we also collaborate with Medicine department of General Hospital of Lahore. In this study we had taken 80 (Eighty) male and female obese patients. The patients have not taken any medicine during study. We have not considered pregnant women. The range of age was thirty to fifty five (35 to 55) years.

Three ml fasting blood was taken in test tube with anticoagulant (sodium fluoride) was used. After taking blood, we centrifuged it for 20 mints. Take the serum and analysed the sample on Micro lab 300. We used all the kits of Merck. We perform the test of Total Cholesterol, HDL, LDL, serum triglycerides, Serum Cholesterol.

RESULTS

In type 2 diabetic patients we found high level of Serum resistin i.e (38±8 ng/ml) as compare to controls. Serum cholesterol (208 ± 70 mg/dl), serum triglycerides(188 ± 74 mg/dl), serum LDL(160 ± 37 mg/dl) was significantly higher in diabetic obese Patients. Serum HDL (38 ± 15) mg/dl) was significantly low in diabetic subjects. Pearson’s analysis revealed significant correlation between serum resistin and serum triglycerides in both groups. A negative correlation was seen between serum resistin and serum HDL in both groups.

In our study we found that in obese diabetic patient a highly level of low density lipoprotein (LDL), triglyceride (TG) and cholesterol as compared to obese controls. The correlation was not exist significantly between LDL-cholesterol and total cholesterol and resistin in obese diabetic patients as compared to obese controls. However TG(triglycerides) and serum resistin showed significant positive correlation in obese diabetic patients as compared to obese controls. While HDL- cholesterol showed significant negative correlation in obese diabetic patients as compared to obese controls.

Table No.1: Lipid profile in the diabetic and non diabetic groups

<table>
<thead>
<tr>
<th>Variables</th>
<th>Diabetics n= 40 Mean ±SD</th>
<th>Non Diabetics n=40 Mean ±SD</th>
<th>p value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cholesterol mg/dl</td>
<td>208 ± 70</td>
<td>151 ± 36</td>
<td>**0.000</td>
</tr>
<tr>
<td>Triglycerides mg/dl</td>
<td>188 ± 74</td>
<td>124 ± 39</td>
<td>**0.0001</td>
</tr>
<tr>
<td>LDL mg/dl</td>
<td>160 ± 37</td>
<td>141 ± 35</td>
<td>*0.0229</td>
</tr>
<tr>
<td>HDL mg/dl</td>
<td>38 ± 15</td>
<td>54 ± 15</td>
<td>**0.000</td>
</tr>
</tbody>
</table>

n = number of subjects * = significant

DISCUSSION

Dyslipidemia link is exist with obesity and also type 2 diabetes and insulin resistance metabolic abnormality are found worldwide as an epidemic. One reason of diabetes is lipid metabolism Abnormalities and also Insulin resistance cause T2DM and obesity.

In our study we found that in obese diabetic patients highly level of low density lipoprotein (LDL), triglyceride (TG) and cholesterol as compared to obese controls. The correlation was not exist significantly between LDL-cholesterol and total cholesterol and resistin in obese diabetic patients as compared to obese controls. However TG(triglycerides) and serum resistin showed significant positive correlation in obese diabetic patients as compared to obese controls. While HDL- cholesterol showed significant negative correlation in obese diabetic patients as compared to obese controls.
The result is also supported with other studies such as Asano et al. (2010) which showed. The correlation was not exist significantly between LDL-cholesterol and total cholesterol and resistin in obese diabetic patients as compared to obese controls. However TG triglycerides and serum resistin showed significant positive correlation in obese diabetic patients as compared to obese controls. Hoseen et al. (2010) study also supported he study in rodent that The correlation was not exist significantly between LDL-cholesterol and total cholesterol and resistin in obese diabetic patients as compared to obese controls. However TG triglycerides and serum resistin showed significant positive correlation in obese diabetic patients as compared to obese controls. While HDL cholesterol showed significant negative correlation in obese diabetic patients as compared to obese controls in rodent.

Contrary to this Qi et al. (2008) study also supported he study in patients with metabolic syndrome his results showed no significant correlation between lipid and resistin level. Mohammazadeh et al. (2008) study also supported he study in Metabolic syndrome he found that insulin resistance, dyslipidemia and obesity are linked with resistin concentration.

CONCLUSION

Resistin may have a role in disrupting lipid parameters thus leading to insulin resistance in diabetes mellitus in obese subjects or vice versa. The correlation was not exist significantly between LDL-cholesterol and total cholesterol and resistin in obese diabetic patients as compared to obese controls. However TG triglycerides and serum resistin showed significant positive correlation in obese diabetic patients as compared to obese controls. While HDL cholesterol showed significant negative correlation in obese diabetic patients as compared to obese controls.

We should try to control hormone such as resistin it will be helpful to control diabetic obese patients with dyslipidemia.

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