

Frequency of Indications of Cesarean Section in Nulliparous Women Presenting in Labor

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ABSTRACT

Objective: To study the frequency of indications of cesarean section in nulliparous women presenting in labor.

Study Design: Descriptive case series

Place and Duration of Study: This study was conducted at the Obstetrics and Gynecology of Department, Ayub Teaching Hospital Abbottabad Jan 2019 to Dec 2020 for a period of two years.

Materials and Methods: 238 pregnant nulliparous females. Nonprobability purposive sampling technique. Only pregnant nulliparous females were included in the study. After taking written informed consent from every nulliparous pregnant female coming to labor room, history was taken, clinical examination and laboratory investigations were done. Data related to age, height, weight, BMI, parity and complications was obtained. All the data was subjected to SPSS version 20 for data analysis.

Results: The incidence of Cesarean section was maximum 175 (73.52%) at age group 16-20 years and was minimum 13 (5.46%) at age group 31-40. The incidence of Cesarean section was maximum 130 (54.62%) at height 5 feet and minimum 33 (13.86%) at height 5.5 feet. The incidence of Cesarean section was maximum 105 (44.11%) at weight group 45-60 lbs and were minimum 33 (13.86%) at weight group 81-105 Pbs. The incidence of Cesarean section was maximum 125 (52.52%) at body mass index 26-36 and was minimum 23 (9.66%) at body mass index 37-45. The incidence of Cesarean section was 123 (51.68%) in Lower segment cesarean section and 115 (48.32%) in vaginal delivery.

Conclusion: The rate of cesarean section in nulliparous was found to be 51.68% and this high rate could be explained on the basis of fact that the hospital receives high risk cases referred from other hospitals.

Key Words: Gestation, Pregnancy, Cesarean section, Fetal Distress, Obstructed Labor

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INTRODUCTION

One of the most common and frequently performed operations is incision of uterus to cause delivery of fetus. It carries very small harm to mother as well as fetus¹. Various operations being done in labor room this one is less fatal². Since Roman times it has been in use. But first evidence of performance of this procedure was available in history in late sixteenth century³.

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In 2018; twenty one percent of all live born fetuses were through this operation in the whole world. In Brazil, Argentina and the like countries it was maximally performed operations of obstetrics. Chad was a country with least percentage of cesarean section. In India and Pakistan the percentage of births through cesarean section was almost same i.e., 14%⁴. In comparison to Latin America percentage of this operation performance is less in Asia⁵. But in countries like China the percentage of births by cesarean section is raising⁶.

This procedure has lowered the occurrence of life threatening risks to both mother and neonates³. Although in America, Britain and the like countries percentage of this operation has raised up to twenty one yet no statistical evidence has been seen any further decrease in life threatening risks above fifteen percent of cesarean section operation. Rather increase in percentage of this operation has led to more chances of loss of life of female and neonate in those countries⁶⁻¹⁰.

This procedure carries certain risks too. There may be side effects of medicines and physical damages of anesthesia procedure. Chances of getting fatal infections also exist. Hospital admission may be

extended leading to further financial burden. The neonate may also get hospital acquired infection^{11,12}. Ayub Teaching Hospital (ATH) Abbottabad is one of the tertiary care hospitals of Khyber Pakhtunkhwa (KPK) that provides health care services not only to the population of whole Hazara Division but some parts of Azad Jamu and Kashmir, Gilgit Baltistan. Like the rest of the country, in the province of KPK the people are not observing family planning and a married couple carries four children on an average. As most of the marriages take place early adulthood so female above 21 years of age usually has a baby with her. Most of couples want to have children above four¹³.

MATERIALS AND METHODS

Descriptive case series conducted at Obstetrics and Gynecology of Department. Ayub Teaching Hospital Abbottabad Jan 2019 to Dec 2020.

Sample Size: 238 pregnant nulliparous females.
Sampling Technique: Nonprobability purposive sampling technique.

Selection Criteria:

Inclusion criteria: All Nulliparous women at term (vertex and non-vertex) gestation with any presentation in active phase of spontaneous labor.

Exclusion criteria: All multipara women undergoing elective caesarean section and caesarean hysterectomy will be excluded from the study.

Collection of Data: After taking written informed consent from every nulliparous pregnant female coming to labor room she was enrolled in the study. Every enrolled nulliparous female was examined clinically after taking a thorough history. Laboratory investigations were done. Data was collected with respect to age, weight, parity, height, BMI and previous obstetrics history related to complications. Data was collected by a single person to avoid errors.

Statistical Analysis: All the data was subjected to SPSS version 20 for data analysis. Descriptive data was obtained. Their frequencies and percentage was generated. Tables were formed.

RESULTS

The incidence of Cesarean section was maximum 175 (73.52%) at age group 16-20 years and was minimum 13 (5.46%) at age group 31-40 as shown in table No 1. The incidence of Cesarean section was maximum 130 (54.62%) at height 5 feet and minimum 33 (13.86%) at height 5.5 feet as shown in table No 2.

Table No 1: Age distribution of participants

| Sr No | Age (years) | Cases (238) | age% |
|-------------|---------------------------|----------------|----------------|
| 1 | 16-20 | 175 | 73.52% |
| 2 | 21-30 | 50 | 21.00% |
| 3 | 31-40 | 13 | 5.46% |
| Mean | Standard Deviation | Minimum | Maximum |
| 23.92 | 4.07 | 16.00 | 40.00 |

Table No.2: Height of study participants

| Sr. No | Height (Feet) | Cases (238) | age% |
|-------------|---------------------------|----------------|----------------|
| 1 | 4.5 | 75 | 31.15% |
| 2 | 5.00 | 130 | 54.62% |
| 3 | 5.5 | 33 | 13.86% |
| Mean | Standard Deviation | Minimum | Maximum |
| 5 | 0.07 | 4.5 | 5.5 |

The incidence of Cesarean section was maximum 105 (44.11%) at weight group 45-60 lbs and were minimum 33 (13.86%) at weight group 81-105 lbs as shown in table no 3.

Table No 3: Weight of study participants

| Sr No | Weight (Pbs) | Cases (238) | age% |
|-------------|---------------------------|----------------|----------------|
| 1 | 45-60 | 105 | 44.11% |
| 2 | 61-80 | 100 | 42.00% |
| 3 | 81-105 | 33 | 13.86% |
| Mean | Standard Deviation | Minimum | Maximum |
| 64.13 | 7.14 | 45 | 105 |

Table No 4: Body Mass Index of study participants

| Sr No | Body Mass Index | Cases (238) | age% |
|-------------|---------------------------|----------------|----------------|
| 1 | 18-25 | 90 | 37.81% |
| 2 | 26-36 | 125 | 52.52% |
| 3 | 37-45 | 23 | 9.66% |
| Mean | Standard Deviation | Minimum | Maximum |
| 26.90 | 3.19 | 18.76 | 45.21 |

Table No. 5: Frequency of indications of cesarean section

| Cephalopelvic Disproportion | Cases (238) | age% |
|-----------------------------|-------------|--------|
| Present | 11 | 4.62% |
| Absent | 227 | 94.96% |
| Breech Presentation | | |
| Present | 24 | 10.08% |
| Absent | 214 | 89.92% |
| Pre eclampsia | | |
| Present | 8 | 3.36% |
| Absent | 230 | 96.64% |
| Eclampsia | | |
| Present | 14 | 5.88% |
| Absent | 224 | 94.12% |
| Fetal Distress | | |
| Present | 46 | 19.32% |
| Absent | 192 | 80.25% |
| Obstructed Labor | | |
| Present | 6 | 2.52% |
| Absent | 232 | 97.48% |
| Placenta Previa | | |
| Present | 5 | 2.10% |
| Absent | 233 | 97.90% |
| Twin Pregnancy | | |
| Present | 3 | 1.26% |
| Absent | 235 | 98.74% |

The incidence of Cesarean section was maximum 125 (52.52%) at body mass index 26-36 and was minimum

23 (9.66%) at body mass index 37-45 (table 4). The incidence of Cesarean section was 123 (51.68%) in Lower segment cesarean section and 115 (48.32%) in vaginal delivery as shown in table no 5. Frequency of indications of cesarean section is denoted in table no 5.

DISCUSSION

To incise the uterus to deliver the fetus has been practiced since centuries. In early days dead pregnant female was used to be incised through her uterus to get her baby to be delivered. But with advances in surgery this procedure was adopted to save lives of both mother and infant. Now a days this procedure is being done whether indicated or not. Percentage of babies born by this operation is rising throughout the globe. It is as low as 1.4% in Chad and as high as 55.5% in Brazil. It is done where medically indicated and sometimes on demand of female. In some countries it is practiced to have unethical financial benefits^{14,15,16}. In this descriptive case series, 238 nulliparous pregnant females were studied. Their age ranged from 16 to 40 years. Age group ranging from 16 to 20 years experienced cesarean section maximum i.e., 73.52% (175). Age group ranging from 31 to 40 years experienced the least i.e., 13%. These results were in accordance with another study carried out in Ethiopia where the age group where it was performed least was above 30 years¹⁷.

Females with height less than five feet had to experience more cesarean section as compared to females with height more than five feet. Same results were seen in a study brought out in Rwanda¹⁸.

Similarly females with body weight between 45 to 60 pounds went through this procedure maximally i.e., 44.11%. Ladies with body weight ranging from 81 to 105 pounds went through this operation the least i.e., 13.86%. This was in accordance with another study carried out in France¹⁹. The most common indication of cesarean section in the study population was fetal distress in 47 (19.75%) patients. It was followed by breech presentation in 24 (10.08%) patients, eclampsia in 14 (5.88%), cephalopelvic disproportion in 12 (5.04%), and pre-eclampsia in 8 (3.36%) patients.

Other lesser indications for cesarean section were obstructed labor (6; 2.52%), placenta previa (5; 2.10%), twin pregnancy with one breech (3; 1.26%), 2 (0.84%) cases each of premature rupture of membranes (PROM), IUGR plus vaginal septum and prolonged latent phase of labor (2; 0.84%) and 1 (0.42%) case each of IUGR plus decreased fetal movements, IUGR plus oligohydramnios, oblique lie plus PROM, hydrocephalus, and occipito-anterior position. The researchers reported a cesarean section frequency of 6.2% with a range of 4.15 to 16.8%. . Before delivery hemorrhage and fits before delivery due to hypertension/fits due to hypertension were associated

with mother death. Uterine rupture, antepartum hemorrhage and cord prolapse were associated with early neonatal death²⁰. In a study carried out in Karachi it was found that females with previous history of this procedure underwent the cesarean section maximally then delayed labor and non-progression of development of fetus was the least indication²¹.

CONCLUSION

The most common indication for cesarean section was found to be fetal distress. It was followed by breech presentation. The least common indication was decreased movements of fetus.

Author's Contribution:

Concept & Design of Study: Uzma Shoaib

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Revisiting Critically: Uzma Shoaib, Sadaf Saifullah

Final Approval of version: Uzma Shoaib

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

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