

To Evaluate the Causes of Primary Infertility on Diagnostic Laparoscopy

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ABSTRACT

Objective: To find out frequent pelvic pathologies in primary infertility on diagnostic laparoscopy.

Study Design: Observational study.

Place and Duration of Study: This study was conducted at the Health Care Centre Mardan from November 2015 to October 2016.

Materials and Methods: Total of 65 patients with primary infertility was selected. Patients with previous abdominal surgeries and medical comorbidities were excluded. After thorough gynecological examination, necessary investigations were done. Laparoscopy was done on day 10 of menstrual cycle calculated from last menstrual period (LMP) through sub umbilical incision. Data was collected in terms of age, duration of infertility.

Results: Majority of patients were in age group of 26-33 [64%]. Mean age was 28 years (range 18-40). About 41 percent of patients had active marital life of 5-7 years duration. 53 percent had normal findings on laparoscopy. Among the various pathologies most commonly observed was block tube contributing to about 23%. Out of which 9.2% had blocked tubes without adhesions and 13% had blocked tubes with adhesions. Next frequent pathology was PCOS contributing to about 7 (10.8%). Uterine pathologies like fibroid, anomalies were seen in 6.7% and endometriosis in 2.7%.

Conclusion: The most frequent pathology seen in primary infertile patients in diagnostic laparoscopy is tubal blockage.

Key Words: Primary infertility, Diagnostic Laparoscopy, Pathology

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INTRODUCTION

Infertility defined as failure of couple to achieve a successful pregnancy after twelve months or more of regular unprotected intercourse is major cause of disruption of family life.¹ Worldwide subfertility is observed in 60 to 80 million couples and 10-15% married couples are considered infertile. The prevalence of infertility in industrial countries is 20%,² while in Pakistan 21.9% of infertility cases are observed (3.5% primary and 18.4% secondary infertility).³ 90% causes are curable and only 10% are complicated.⁴ Leading causes of infertility includes tubal disease, ovulatory disorder, uterine or cervical factors, endometriosis and male factor infertility.^{5,6}

Hysterosalpingography, the traditional method to evaluate the tubal patency, is largely replaced by laparoscopy, saline intra uterine infusion (SIS) and HYCOSY. Diagnostic laparoscopy is safe and cost effective in the initial management of infertility.⁷ The advantage of laparoscopy over hysterosalpingography is that it not only allows direct visualization of the exterior of uterus and tubes, but also helpful in treatment of selected cases there and then.⁸

MATERIALS AND METHODS

This observational study was done in Health Care Centre Mardan from 1st November 2015 to 31st October 2016. All patients who presented with primary infertility were included in study. After thorough history and examination, baseline hormonal assay (FSH, LH, serum prolactin) and husband semen analysis were carried out. Patients were admitted on day 10 of menstrual cycle and informed consent was taken. Patients with male factor infertility, with previous laparoscopy, non-compliant with the procedure, previous multiple surgeries and patients who were not fit for general anesthesia were excluded from the study. Patients were kept Nil by mouth for 8 hours before the procedure. Laparoscopy was performed under general anesthesia. Laparoscope was introduced through sub umbilical incision and CO₂ insufflation done up to 10-14 mmHg. Thorough assessment of the uterus, tubes, ovaries and pouch of Douglas were done.

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Tubal patency was checked using Methylene blue dye findings were recorded. Patients were discharge in the evening when completely conscious, mobile and passed urine. The data was analyzed using SPSS- 20.

RESULTS

Majority of patients were in 26-33 age group (64%). Sixteen (24.6%) patients were in 18-25 age group and only 7 (10.8%) in 34-40 years (Table1). Duration of infertility was 5-7 years in 27 (41.5%) patients, 2-4 years in 12 (18.5%), 8-9 years in 11 (16.9%) and 11-15 years in 10 (15.4%) patients (Table 2). In 35 patients (53.8%) no pelvic pathology was seen. The most frequent pelvic pathology observed was tubal blockage seen in 23% of patients (13.8% with adhesions and 9.2% without surrounding adhesions) followed by PCOS in 7(10.6%). Frequency of endometriosis and uterine pathology (bicornuate in one patient and fibroids in three patients) was equal in 4 (6.2%)] (Table3).

Table No.1: Frequency of age (n=65)

Age (years)	No.	%
18 – 25	16	24.6
26-33	42	64.6
34-40	7	10.8

Table No.2: Frequency of duration of infertility

Duration of infertility (years)	No.	%
0 -2	3	4.6
3-4	12	18.5
5-7	27	41.5
8-10	11	16.9
11-15	10	15.4
Missing	2	3.1

Table No.3: Frequency of causes of infertility

Cause of Infertility	No.	%
Normal	35	53.8
Blocked tube	6	9.2
Adhesion with block tube	9	13.8
Endometriosis	4	6.2
Uterine pathology	4	6.2
PCOS	7	10.8

DISCUSSION

Laparoscopy is a gold standard investigation for evaluating pelvic pathology in work up of infertile couple. Treatment of Infertility is a challenge for gynecologist as many pathological and social issues are involved with it, due to these issues the management is multidisciplinary approach. About 40% of infertile couples fails to seek treatment, illustrating lack of education and awareness.⁹

In our study majority of patients were in age range of 26-33 years [n=42 (64%)] which is contrary to study done by Haider et al¹⁰, where about 55% of patients

belong to age range of 18-25. About 10% of patients belong to age range of 34-41 years. Female age is considered to be an important determinant in both spontaneous as well as assisted conception and age less than 35 years is considered to be good prognostic factor for fertility.¹¹

Young couples are referred for investigation of infertility after 12 months of failed conception but, for age more than 35 years NICE recommends early intervention.¹² The mean age at which women present with infertility is rising, probably due to delayed marriage and childbearing. In present study mean age was 28 years, similar age group was found in study conducted by Aziz et al.¹³

Regarding causes of infertility tubal occlusion was the most common cause of infertility total 6 cases (9.2%) were of tubal occlusion without adhesions, while 9 cases (13.8%) were tubal occlusion with adhesion contributing to about 23% to the total pathologies. Which is comparable to the study done by Panchal et al¹⁵, where about 21.9% primary infertility was due to tubal occlusion. In developing countries, pelvic inflammatory disease (PID) is the most common cause of tubal pathology. A single episode of PID causes 10% of future tubal factors infertility. Second most common cause was PCOS seen in 7 (10.6 %). Similar result were noted by study conducted by Ara et al¹⁰, 4 cases were of endometriosis (6.2%), comparable results noted by study conducted by Aruna Reddy et al¹⁶ in laparoscopic evaluation of female factors infertility. Laparoscopy is the gold standard both for diagnosis and treatment of endometriosis. Four cases (6.2%) were of uterine pathology like bicornuate uterus (1) and fibroids (3).

CONCLUSION

Tubal occlusion is most common cause of infertility, which mostly results from pelvic inflammatory disease. So, pelvic inflammatory disease needs to be recognized and treated promptly and laparoscopy should be performed as primary investigation in work up of infertile couple.

Author's Contribution:

Concept & Design of Study: Sarwat Noreen
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 Revisiting Critically: Sarwat Noreen, Roeda Shams
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