

Role of Laparoscopy in Evaluation of Primary Infertility

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ABSTRACT

Background: Most of the couples conceive during first year of marriage and majority of the rest conceive during the second year. Few misfortune couples unable to conceive. Female factor are most common. Laparoscopy is a useful tool to evaluate female factor of infertility.

Aim: To find out the frequency of common causes of primary infertility in females undergoing laparoscopy.

Method: This is a retro respective cross sectional study, conducted in Health Care Centre (pvt) Ltd, Peshawar from July 2020-December 2021. All medically fit females having regular unprotected intercourse for at least one year and normal semen analysis report presented with infertility underwent laparoscopy after taking informed consent. Females with previous surgeries were excluded. Data was collected. Frequency and percentages of different causes of infertility calculated. Data was analyzed on SPSS.

Result: Primary infertility was seen in 140 out of 210 patients. Among primary infertility 36 patients had normal laparoscopic finding. The common finding were PCOs 44 (31.4%), tubal factor, 23 (16.4%), fibroid 14 (10%), pelvic adhesions 10(7%), endometriosis 6 (4.3%), simple ovarian cyst 4(2.5%) & PID 3(2%).

Conclusion: Life style modification should be advised at early ages. Laparoscopy has a beneficial role in evaluation of primary infertility.

Keywords: Primary infertility, laparoscopy, conceive,

INTRODUCTION

Infertility is defined as inability of a couple to conceive despite regular, unprotected intercourse for one year¹. It affects considerable number of couples². Approximately one tenth of world population suffers from infertility³.

The consequences of infertility are many fold⁴. The inability to conceive is very distressing. It affects mental health, social and marital relations^{4,5}. It has a significant impact on quality of life⁶. With increasing health awareness couples start consulting doctors soon after marriage⁷.

The cause of infertility is multi factorial². Female factors are more common. The common female factors are ovulation disorders, Tubal factors, endometriosis, pelvic inflammatory disease and fibroid uterus^{2,8}. In majority of cases no cause is identified. They fall in unexplained infertility category and have good prognosis².

A systematic approach is used for evaluation. History and examination provides important information^{2,6}. Laparoscopy is very effective tool to diagnose and treat infertility all over the world. It helps direct visualization of pelvic organs and find out the pathology^{8,9}.

This study was carried out to find out different causes of primary infertility in females by diagnostic laparoscopy.

METHODOLOGY

This retrospective, cross sectional study was conducted at Health Care Center (Pvt) Ltd, University Town, Peshawar Pakistan from July 2020 to December 2021 after IRB permission and 140 patients with primary infertility of at least 12 months were included. All medically fit patients with primary infertility of at least the one year with normal semen analysis report were included. Medically unfit patients, patients with male factors infertility, patient with previous surgeries were excluded from the study.

Demographic history was taken and clinical examination was performed. Male factor of infertility was ruled out. After taking informed consent Laparoscopy was performed and findings were noted about uterus, fallopian tube till fimbrial end, Ovarian size,

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shape peripheral follicles, utero sacral ligaments for endometriotic spots, peritubal, periovarian adhesions, fluid in POD, fibroid and ovarian cyst. The patency of fallopian tubes was checked by installing methylene blue dye with Rubin's canula. All information was put in preformed Performa.

RESULTS

There were total 210 patients, 140 patients with primary infertility and 70 with secondary infertility. Age range was 27.8 yrs (20-42 years), Mean duration of infertility 3.4 yrs (2-20years).

Table 1: Age distribution

| Age | n | %age |
|-------|----|-------|
| 20-25 | 50 | 35.7% |
| 25-30 | 67 | 47.8% |
| 30-35 | 15 | 10.7% |
| > 35 | 8 | 5.7% |

PCO was identified in 44(31.4%) of cases. Blocked fallopian tubes in 14(10%), hydrosalpinx in 4(2.8%) patients, fibroid uterus in 14(10%), pelvic adhesions in 10(7%), endometriosis in 6(4.3%), PID in 3(2.8%) simple ovarian cyst in 4(2.8%). Ovary and fallopian tubes could not be visualized in 2 patients because of dense adhesions. There was no obvious pathology in 36 cases.

Table 2: Duration of infertility

| Duration | n | %age |
|------------|----|------|
| <5 years | 48 | 34% |
| 5-10 years | 67 | 47% |
| >10 years | 23 | 16% |

Table 3: Results of Laparoscopy

| Findings | n | %age |
|------------------|----|-------|
| PCO | 44 | 31.4% |
| Blocked tubes | 14 | 10% |
| Uterine Fibroid | 14 | 10% |
| Pelvic adhesions | 10 | 7% |
| Hydrosalpinx | 09 | 6.4% |
| Endometriosis | 06 | 6.3% |
| Ovarian cyst | 04 | 2.8% |
| PID | 03 | 2% |
| Normal findings | 36 | 25.7% |

DISCUSSION

Diagnostic laparoscopy has a proven role in evaluation of infertility and treatment of different pelvic pathologies⁹. In this study primary infertility contributed 66.6% (2/3) of cases. It reflects the main bulk of primary infertility^{10,13}. This shows that primary infertility is a major concern and needs proper evaluation.

The ratio of primary to secondary infertility was 2:1. Same results were found by Aziz N⁸. Female age has a major impact on fertility.⁸ Infertility increases with advancing female age.¹¹ In this study age range was 20-42 yrs. Increased upper limit is perhaps because of current trend of late marriages as because of carrier females delay child bearing Aziz N shows the similar results⁸. Geetika shows age range 20-34 years.⁷ Mean age of presentation was 27.8 yrs that is similar to Aziz N study.⁸ Anisa K shows different results 21.6 years¹². In Talib's study mean age was 22 years⁹.

With the improvement of health facilities and increasing awareness couples try to get medical help early.⁷ Mean duration of presentation was 3.4 yrs (2-20 years) same trend was seen in S Sadiya's study¹³. Approximately one third of patients, 48(34.3%) presented within 5 yrs. Late presentation was probably because most of the patients were from remote areas with lack of facilities. PCO adversely affect fertility.^{13, 14} Most common finding was PCO in 44(31.4%) of cases. This is in contrast to work done Priyanka that shows 46% cases of PCO. The reason seems to be changing life style and more trends to sedentary life style¹⁵.

Any pathology of fallopian tubes affects its function and is an important factor. That is why evaluation of fallopian tubes is mandatory¹⁶. Tubal factor was the second most cause identified in 23 patients (16.4%). Previous studies by Geetika show different results (62%)⁷. This may be because of small sample size in our study. However Q Wani shows tubal factor in 18.3% of cases¹⁷. This may reflect improved awareness about hygiene and health education.

Pelvic adhesions were present in 10(7%) of cases that is comparable to work done by Q Wani. These adhesions may be because of previous undiagnosed episode of PID⁶.

Endometriosis is a progressive and debilitating disease and has high association with infertility¹⁸. In this study 6 patients (4.3%) had endometriosis Farzana A. showed the different results i.e., 23%¹⁴.

PID is a major cause of damage to tubal function¹⁹. 3(2%) patients were identified having PID that was similar to Q Wani study¹⁷. This is also comparable to Talat N i.e., 3.5%⁶.

Fibroid are common uterine pathology and can cause infertility by interfering with gamete, embryo implantation and creates hostile environment. These are more common in infertile females than fertile female²⁰. In this study 10% patients had uterine fibroids. Previous study by Rachel M shows 27% incidence in females seeking help for conception²².

Normal results were seen in 25.7% of cases that is comparable to Karishna C.

CONCLUSION

PCO was the most common finding that is concerning because of its short and long term effects. Life style modification should be

advised at early ages. Laparoscopy has a beneficial role in evaluation of primary infertility.

Conflict of interest: Nil

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