International Journal of Medical Research Professionals
P-ISSN: 2454-6356; E-ISSN: 2454-6364
DOI: 10.21276/ijmrp

Original Research Article.

Laparoscopy: As A Gold Standard for Women Infertility Evaluation In Bangladesh

Poly Begum[1*], Dipti Rani Saha[2]

[1*]Associate Professor, [2]Professor,
Department of Obstetrics and Gynaecology, Diabetic Association Medical College, Faridpur, Bangladesh.

ABSTRACT

Background: In recent laparoscopy is emerging as a valuable technique for a complete assessment of female infertility.

Objective: In this study, our main goal is to find out the efficacy rate of laparoscopy in female infertility identification and management in Bangladesh.

Method: This cross-sectional study was carried out at Department of Obstetrics and Gynaecology from September 2016 to September 2018 among 200 women including both primary (n=148) and secondary infertility (n=52). Where a checklist was prepared and the data were collected methodically and meticulously. On admission, a detailed history was taken from the patients or from the patient's attendants.

Results: During the study 78% of patients belonged to age 31-40 years in primary infertility group and 60% in secondary infertility group. Also where in primary and secondary infertility group normal laparoscopic was found in 26% and 12% patients. 28.70% in primary and 24% in secondary infertility patients had no complication after laparoscopy evaluation.

Conclusion: We can conclude that laparoscopy can be used as a gold standard for diagnosis and treatment primary and secondary infertility. Further study is needed for a better outcome.

Keywords: Laparoscopy, Women Infertility, Cross-Sectional Study.

***Correspondence to:**

Dr. Poly Begum,
Associate Professor,
Department of Obstetrics and Gynaecology,
Diabetic Association Medical College, Faridpur, Bangladesh.

Article History:

Received: 19-02-2019, **Revised:** 11-03-2019, **Accepted:** 30-03-2019

Access this article online	
Website: www.ijmrp.com	Quick Response code
DOI: 10.21276/ijmrp.2019.5.2.041	

INTRODUCTION

Infertility is well-defined as failure to conceive through one year of frequent unprotected intercourse. According to WHO major reasons for infertility are malnutrition, pelvic tuberculosis, and puerperal infections leading to tubal blockage. Infertility is a problem of worldwide proportions, the mainstream being the residents of developing countries. The influence of female factor is assuming a tremendous proportion. More than 70 million couples suffering every year.[1-3] It distresses an estimated 48 million women, with the highest incidence of infertility affecting people in South Asia, Sub-Saharan Africa, North Africa/Middle East, and Central/Eastern Europe and Central Asia.[4] Infertility is triggered by many sources, with nutrition, diseases, and other malformations of the uterus. Infertility disturbs women from around the world, and the cultural and social stigma surrounding it varies.

Causes of female infertility can mostly be classified about whether they are acquired or genetic, or strictly by location. Though factors of female infertility can be classified as acquired or genetic, female infertility is typically more or less a combination of nature and nurture. Also, the occurrence of any single risk factor of female infertility does not certainly cause infertility, and even if a woman is definitely infertile, the infertility cannot certainly be blamed on any single risk factor even if the risk factor is existing. According to the American Society for Reproductive Medicine (ASRM), age, smoking, sexually conveyed infections, and being overweight or underweight can all affect fertility.[5]

In broad sense, acquired factors essentially include any factor that is not based on a genetic mutation, including any intrauterine exposure to toxins during fetal growth, which may present as infertility many years later as an adult.

Among the many surveys available to evaluate the female partner of the infertile couples, laparoscopy is comparatively recent and considered gold standard for pelvis evaluation.[6] Laparoscopy delivers a panoramic view of the anatomy of pelvis and magnifies the view of pelvic organs. In this study our main objective is to estimate efficiency of laparoscopy in female infertility identification and management in Bangladesh.

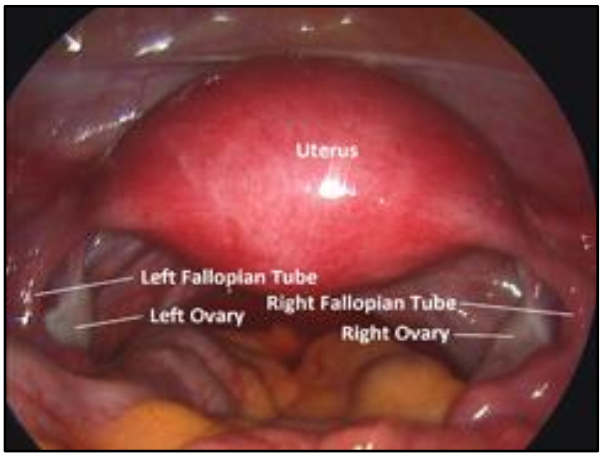

Figure 1: Laparoscopy surgery management of infertility in women

OBJECTIVES

General Objective

- To evaluate efficiency of laparoscopy in female infertility identification and management.

Specific Objective

- To detect clinical characteristics of the patients.
- To analyze laparoscopic outcome regarding cause of infertility.

METHODOLOGY

Study Types

This was a cross-sectional study.

Place and Period of the Study

This study was conducted at Department of Obstetrics and Gynaecology from September 2016 to September 2018.

Study Population

200 women including both primary, n=148 and secondary infertility, n=52 were selected for laparoscopy as study population.

Inclusion Criteria

- Patients who were unable to conceive after one or more year of regular unprotected sexual intercourse.
- Age between ≤20-40 years.

Exclusion Criteria

- Age more than 40 years.
- Patients who had relative or absolute contraindications for anesthesia or laparoscopy.

Study Procedure

A check list was prepared and the data were collected methodically and meticulously. On admission, a detailed history was taken from the patients or from patient's attendants. Status of the patient at regular follow up were be recorded. Daily clinical notes were kept and analyzed. For laparoscopy and dye test that were suspected case of endometriosis, abnormal HSG and unexplained infertility. After taking informed consent, patients' detail was collected on pre-designed proforma regarding age of marriage, duration of infertility, associated sign and symptoms, provisional diagnosis, intraoperative laparoscopic complications etc. Laparoscopy was scheduled in proliferative phase of menstrual cycle. Patients were admitted one day prior to surgery. Apart from complete history, general physical examination, baseline investigations and semen analysis were performed. The ECG and chest.

Data Analysis Procedure

All the data were checked and edited after collection. Then the collected data were analyzed by Statistical Package for Social Sciences (SPSS) version 22 (Texas, USA). The p value less than 0.05 were taken as statistically significant. Chi-square test was performed to measure the level of significance between qualitative variables.

Table 1: Clinical characteristics of the patients

Clinical characteristics	Primary infertility	Secondary infertility
	%	%
Duration of infertility		
<5 years	38%	39%
5-10 years	50%	46.5%
>10 years	12%	14.5%
Symptoms		
No symptoms	49%	44%
Dysmenorrhea	19%	5%
Pelvic pain	14%	22.6%
Menstrual problems	18%	28.4%

Table 2: Distribution of the patients according to investigations (n=200)

Investigations	Primary infertility (n=148)	Secondary infertility (n=52)
	%	%
Pelvic USG		
Normal	80%	76.5%
PCOs	8%	5.1%
Follicular cyst	3.1%	7%
Adnexal mass	3.6%	2.4%
Uterine abnormalities	5.3%	9%
HSG		
Normal	24%	9%
Blocked tubes	8%	6%
Dilated tubes	2.1%	3%

RESULTS

In figure-2 shows age distribution of the patients where majority 78% patients belonged to age 31-40 years in primary infertility group and 60% in secondary infertility group. The mean age was 29±9.6 years in primary infertility group and 30±10.5 years in secondary infertility group.

In table-1 shows clinical characteristics of the patients where among 200 patients 50% patients had infertility belonged to 5-10 years in primary infertility group and 46.5% in secondary infertility group. 49% patients had no symptoms in primary infertility group and 44% in secondary infertility group.

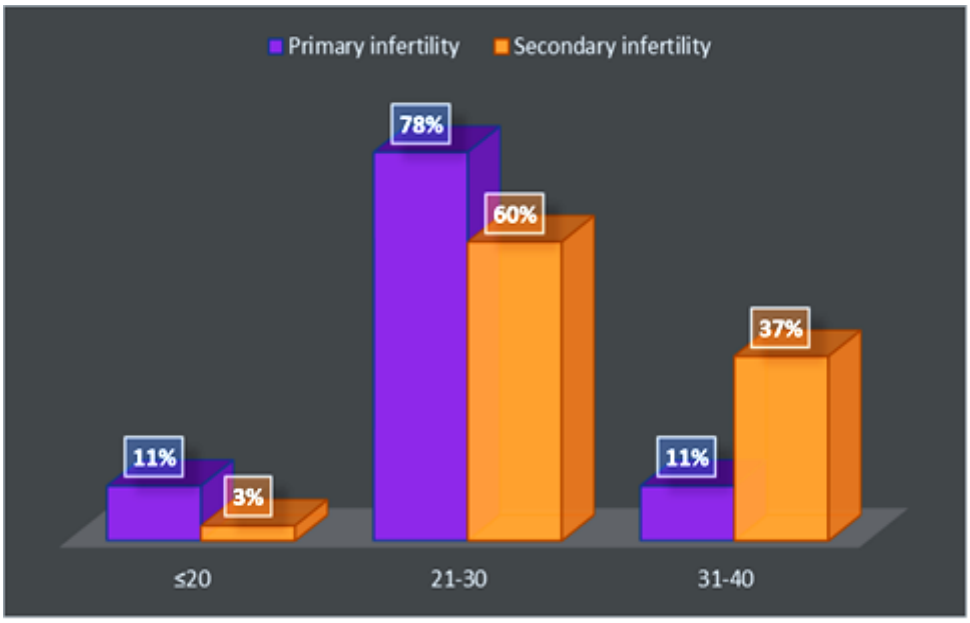

Figure 2: Age distribution of the patients.

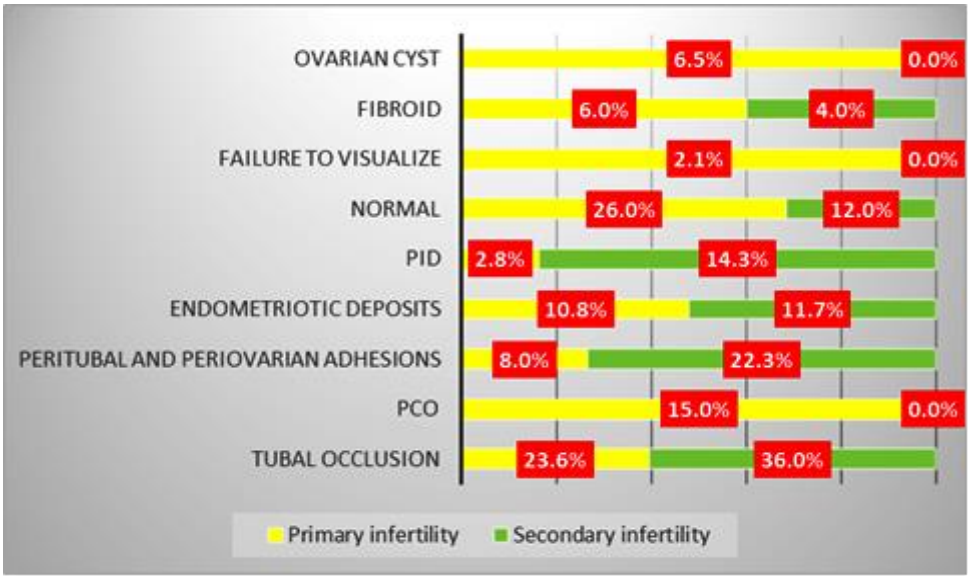

Figure 3: Laparoscopic outcome regarding cause of infertility.

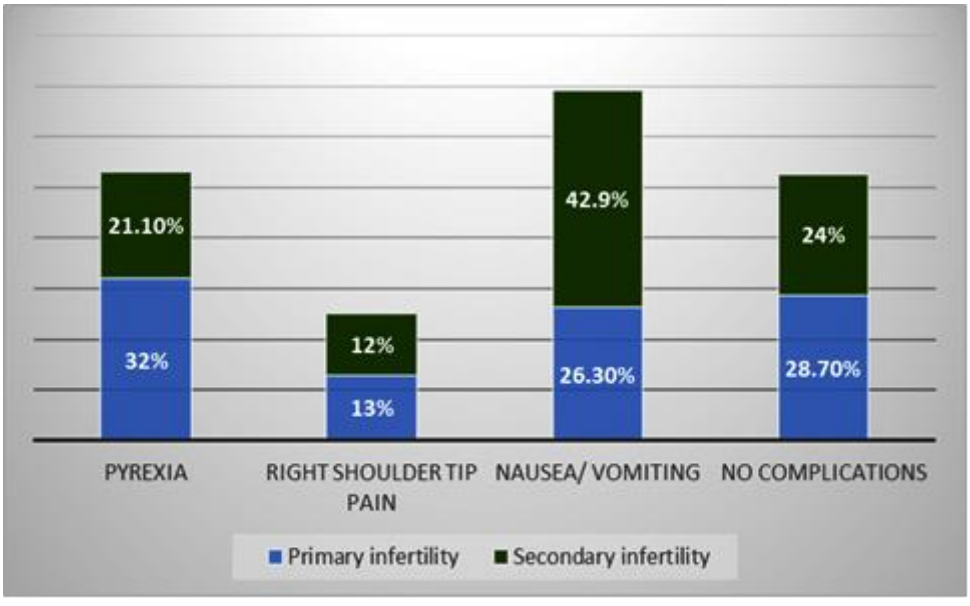

Figure 4: Distribution of patients according to laparoscopic complication.

In table-2 shows distribution of the patients according to investigations where 80% patients had normal pelvic USG in primary infertility group and 76.5%in secondary infertility group.
PCOS was found 8% in primary infertility group and 5.1% in secondary infertility group. Normal HSG was found 24% and 9%in primary and secondary infertility group respectively.
In figure-3 shows laparoscopic outcome regarding cause of infertility where in primary infertility group normal laparoscopic was found in 26% patients, tubal occlusion was 23.6%, PCO was 15%, endometriotic deposits was 10.8%. In secondary infertility group tubal occlusion was found 36%), peritubal and periovarian adhesions was 22.3%, PID was 14.3%.
In figure-4 shows distribution of patients according to laparoscopic complication where pyrexia was found 32% in primary infertility group and 21% in secondary infertility group. Right shoulder tip pain was 13% and 12% in primary and secondary infertility group respectively.
Nausea/vomiting was 26.3% in primary infertility group and 42.9% in secondary infertility group. No complications were found in 28.7% and 24% in primary and secondary infertility group respectively.

DISCUSSION

In this study majority 78% patients belonged to age 31-40 years in primary infertility group and 60% in secondary infertility group. The mean age was 29±9.6 years in primary infertility group and 30±10.5 years in secondary infertility group. One study observed that the mean age of presentation was 28 years in primary infertility and 32 years in secondary infertility.[7]
Another report states that women over 35 years of age should be referred early from primary care for investigation and treatment.[8]
One study observed that one hundred and three (56.36%) patients with primary infertility and 33 (17.09%) with secondary infertility were aged between 21-30 years, while 20 (10.36%) and 22 (11.39%) were 31-40 years of age respectively.[9]
50% patients had infertility belonged to 5-10 years in primary infertility group and 46.5% in secondary infertility group. 49% patients had no symptoms in primary infertility group and 44% in secondary infertility group. One study reported that the duration of infertility was 2-5 years in majority of patients (59.1%) of primary infertility, while it was over 5 years in majority of patients (77.7%) with secondary infertility. None had less than 2 years of duration in case of secondary infertility.[7]
Similar results reported that 58% of patients had primary infertility of 2-5 years while 71% of patients had infertility of over 5 years, and none had primary infertility of less than 2 years.[10]
Another report observed that 64 (47.06%) patients had infertility belonged to 5-10 years in primary infertility group and 27(46.36%) in secondary infertility group.[9]
one study observed that the mean duration of subfertility at time of presentation in primary infertility group was 1.95 years while in secondary infertility was 2.70 years.[11]
26% patients, tubal occlusion were 23.6%, PCO was 15%, endometriotic deposits were 10.8%. In secondary infertility group tubal occlusion was found 36%), peritubal and periovarian adhesions was 22.3%, PID was 14.3%. These symptoms were found to be frequently associated with organic pelvic pathology. The diagnostic laparoscopy should be considered early in symptomatic patients during infertility workup.[12]
In present study where 80% patients had normal pelvic USG in primary infertility group and 76.5% in secondary infertility group. PCOS was found 8% in primary infertility group and 5.1% in secondary infertility group. Normal HSG was found 24% and 9% in primary and secondary infertility group respectively.one study showed normal pelvic findings and patent tubes on laparoscope was found in 25% cases of primary infertility and only 11.1% cases in secondary infertility.[7] The most commonly found pathologies were polycystic ovarian disease, endometriosis, adhesions and tubal blockage. One study reported that pelvic ultrasound was normal in 82.35% of primary and 77.19% of secondary infertility cases.[9]
In this series primary infertility group normal laparoscopic was found in 26% patients, tubal occlusion was 23.6%, PCO was 15%, endometriotic deposits was 10.8%. In secondary infertility group tubal occlusion was found 36%), peritubal and periovarian adhesions was 22.3%, PID was 14.3%.
One study reported 51,47% patients with primary and 52.15% with secondary infertility had normal pelvic findings and patent tubes.[9]
Another study found that the commonest finding by laparoscopy in patients with primary infertility was endometriotic spots which accounted for 55%while in secondary infertility tubal occlusion was more common which accounted for 30%.[11]
Regarding complication of laparoscopy where pyrexia was found 32% in primary infertility group and 21% in secondary infertility group. Right shoulder tip pain was 13% and 12% in primary and secondary infertility group respectively. Nausea/vomiting were 26.3% in primary infertility group and 42.9% in secondary infertility group. No complications were found in 28.7% and 24% in primary and secondary infertility group respectively. Which is supported by different study.[7,11]

CONCLUSION

From our result, we can conclude that, laparoscopy can be used as a gold standard for diagnosis and treatment primary and secondary infertility. Further study is needed for better outcome.

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Source of Support: Nil.

Conflict of Interest: None Declared.

Cite this article as: Poly Begum, Dipti Rani Saha. Laparoscopy: As A Gold Standard for Women Infertility Evaluation In Bangladesh. Int J Med Res Prof. 2019 Mar; 5(2):199-203. DOI:10.21276/ijmrp.2019.5.2.041