

Role of Diagnostic Laparoscopy in Evaluation of Infertile Women

Arshad Jahan^{1*}, Fatema Begum², Kona Chowdhury³, Razia Begum⁴,
Mst Tahmina Parvin⁵, Banika Biswas⁶, AZM Zahid Hossain⁷

^{1*}Assistant Professor (Gynae), Gonoshasthaya Samaj Vittik Medical College, Bangladesh.

²Assistant Professor & Head (Gynae), Khwaja Yunus Ali Medical College, Bangladesh.

³Associate Professor (Paed), Gonoshasthaya Samaj Vittik Medical College, Bangladesh.

⁴Consultant (Gynae), Mugda Medical College Hospital, Bangladesh.

⁵Assistant Professor (Gynae), Dhaka Community Medical College, Bangladesh.

⁶Assistant Professor (Gynae), Ad-din Mohila Medical College, Bangladesh.

⁷Professor & Head (Surgery), Gonoshasthaya Samaj Vittik Medical College, Bangladesh.

ABSTRACT

Objective: To find out the magnitude of different types of pelvic pathologies female infertility by laparoscopy.

Methods: Seventy five infertile women who had undergone infertility evaluation by laparoscopy to see the pelvic pathology or evaluation of pelvic organs at infertility department of Bango Bandhu Sheikh Mujib medical university between July 2016 to June 2017, were studied. Assessment of these patients was carried out carefully before starting the endoscopic procedures. A full history was taken which was followed by thorough general, abdominal and pelvic examination than laparoscopy was performed under G/A.

Results: The mean age ranged from 18 to 42 years. Among them 51(68%) patients were aged between 21 to 30 years. 51 (68%) patients had primary infertility and 24 patients (32%) had secondary infertility. 44 (58%) had normal tubes, 08 (10.67%) had some form of peritubal adhesion and 14 (18.67%) had tubal block, either unilateral or bilateral. 52 (69.33%) patients had normal pelvic peritoneum, 16 (21.33%) had pelvic adhesion probably from pelvic inflammatory diseases and 07 (9.33%) had frank endometriosis. 23 (30.66%) had normal

ovaries, 32 (42.66%) had polycystic ovaries (pcos), 06 (08%) had periovarian adhesions, 04 (5.33%) patients had simple ovarian cysts, while 02 (2.66%) had endometriotic (chocolate) cysts.

Conclusion: Ovarian pathology was the highest pelvic abnormality (69%) followed by tubal pathology (38%) and uterine pathology (29%).

Key words: Diagnostic Laparoscopy, Infertile Women.

*Correspondence to:

Dr. Arshad Jahan,
Assistant Professor (Gynae),
Gonoshasthaya Samaj Vittik Medical College, Bangladesh.

Article History:

Received: 05-06-2019, Revised: 02-07-2019, Accepted: 12-07-2019

Access this article online

Website: www.ijmrp.com	Quick Response code 
DOI: 10.21276/ijmrp.2019.5.4.011	

INTRODUCTION

Laparoscopy is a reliable procedure which improves diagnostic accuracy in pelvic disorders and can reveal information which may make laparotomy unnecessary.¹

Diagnosis of endometriosis is usually based on laparoscopic findings.² The timing of laparoscopy is one of the key aspects of the discussion at which the couple and the practitioner feel the investigation should proceed.

In a young couple with a negative history, it is usually offered after all other tests are completed and discussed. In older couples or if the history suggests a pelvic factor it is often indicated as one of the primary methods of evaluation.²

OBJECTIVES

To determine the role of diagnostic laparoscopy in the evaluation of female infertility at infertility department of BSMMU and to find out the proportion of different types of pelvic pathologies and conditions in women of infertility.

METHODOLOGY

This is a retrospective study for cases of diagnostic laparoscopy that had been carried out at infertility department of BSMMU during the period of July 2017 to June 2018. Assessment of these patients was carried out carefully before starting the endoscopic

procedures. A full history was taken which was followed by thorough general, abdominal and pelvic examinations. Laparoscopy was performed under general anaesthesia with controlled ventilation. The patients were placed in a modified lithotomy position and then 15 to 20 degree trendelenberg tilt was employed. The bladder was catheterized and a pelvic examination was carried out. The uterine canula was secured to the cervix by means of a single toothed tenaculum. After induction of proper pneumoperitoneum with CO₂, laparoscopy was performed using an intraumbilical entry. Multiple punctures technique was employed and the peritoneal cavity was inspected thoroughly. Methylene blue dye solution was used for the observation of tubal patency with spill of dye in peritoneal cavity. Then the instruments were removed, pneumoperitoneum was deflated and the umbilical incision was closed with 3-0 dexion suture.

Table I: Age of patients

Age of patients	n	%
18 to 20 years	02	2.66%
21 to 30 years	51	68%
31 to 40 years	21	28%
42 years	01	1.33%

Table II: Uterine pathology

Laparoscopic findings	n	%
Normal in size	42	56%
Smaller than normal	8	10.67%
Myoma	6	8%
adenomyosis	5	6.67%
Restricted mobility	10	13.33%
Unicornuate / bicornuate	3	4%
Not seen due to adhesions	1	1.33%

Table III: Tubal pathology

Laparoscopic findings	n	%
Normal tubes	44	58.67%
Peritubal adhesions	08	10.67%
Tubal block	14	18.67%
Hydrosalpinx	4	5.33%
Tubo-ovarian mass	3	4.1%
Not seen due to adhesions	2	2.66%

Table IV: Peritoneal pathology

Laparoscopic findings	n	%
Normal	52	69.33%
Pelvic adhesions	16	21.33%
Endometriosis	7	9.33%

Table V: Ovarian pathology

Laparoscopic findings	n	%
Normal	23	30.66%
Peri-ovarian adhesions	06	08%
PCO	32	42.66%
Small	02	02.66%
Tubo-ovarian mass	06	08%
Simple cyst	04	5.33%
Chocolate cyst	02	02.66%

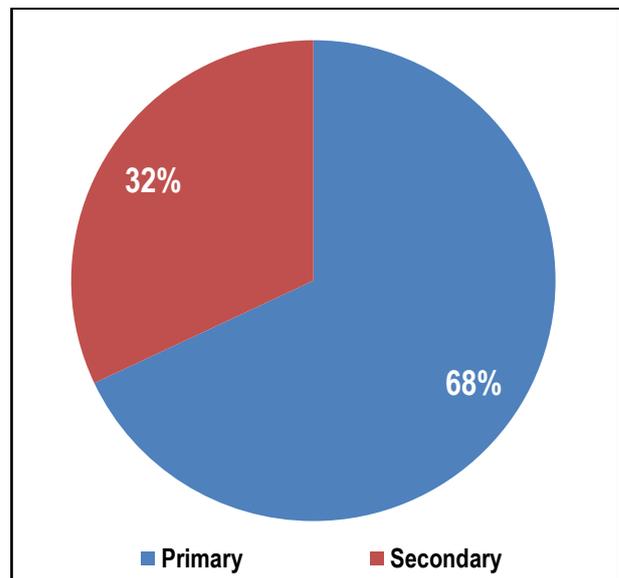


Figure 1: Type of Fertility

RESULTS

Seventy five cases were included in this study. The age ranged from 18 to 42 years.

Table I shows the age of the patients. 02 (2.66%) were between the 18 to 20 years. 51 (68%) patients were aged between 21 to 30 years. The age of the other 21 patients (28%) ranged from 31 to 40 years while only 1 patient (1.33%) was aged 42 years.

Figure I show the type of infertility, primary or secondary. The infertility of 51 patients (68%) was primary, while 24 patients (32%) had secondary infertility.

Table II shows uterine pathology, 42 (56%) had normal uterus. 08 patients (10.67%) had smaller than normal sized uterus. Among them 06 (8%) had myomas, the mobility of the uterus was restricted in 10 patients (13.33%), congenital anomaly in the form of unicornuate and bicornuate uterus was seen in 03 patients (4%), and uterus could not be visualized due to gross adhesion in 01 (1.33%).

Table III shows tubal pathology. 44 patients (58.67%) had normal tubes, 08 (10.67%) had some form of peritubal adhesions. 14 patients (18.07%) had tubal block. Among them 8 patient had unilateral block and 6 patients had bilateral block. 4 (5.33%) had hydrosalpinx and 3 (4%) had tubo ovarian mass.

The tubes could not be visualized in 2 cases (2.66%) due to gross adhesion.

Table IV shows peritoneal pathology. Fifty two patients (69.33%) had normal pelvic peritoneum, 16 (21.33%) patients had pelvic adhesion from PID and 7(9.33%) patients had endometriosis.

Table V shows ovarian pathology. 23 patients (30.66%) had normal ovaries. 06 had periovarian adhesions, 32 (42.66%) had polycystic ovaries (pcos), 02 (2.66%) had small ovaries. 06 (8%) had tubo ovarian mass, 04 (5.33%) had simple cyst while 02 (2.66%) had chocolate cysts.

DISCUSSION

Since 1960 when safe technique for induction of pneumoperitoneum was developed and fiber optic system for light transmission became available, laparoscopy has gained wide spread popularity in Gynecologic practice. It has been used to diagnose unknown problem, to follow the course of a known

disease and to modify therapy. Furthermore some surgical procedures such as lysis of adhesions, tubal sterilization have been performed through laparoscopy. Laparoscopic procedures are less invasive, more convenient and more precise for diagnosis of subfertility in women. So, laparoscopy has achieved widespread use as a valuable diagnostic aid in Gynecology.

In this prospective study laparoscopy was done in 51 patients with primary infertility (68%) and 24 patients with Secondary infertility (32%). Nabil et al in a study showed primary infertility in 29.3% patients and secondary infertility in 59.6% cases.

Whereas Haider et al in a study of 200 sub fertile patients found 66% with primary and 33% with secondary infertility which is in conformity with the present study.⁹

Laparoscopy is very helpful in discovering unsuspected pelvic pathology specially pelvic adhesions.⁴ It is superior in evaluation of tubal obstruction, pelvic adhesions and endometriosis than other methods.⁵ It has permitted the development of concomitant accessory therapeutic procedures, thus defining the best treatment strategy for the infertile couples.¹⁰

In the current study pelvic adhesions were found in 21.33% cases. This is noticeably less than Nabil et al who found pelvic adhesions in 35.23% patients in 1994, and 50% found in 1987 by Chang et al.⁵ Pereira et al found pelvic adhesions in 18.66% patients.¹⁰

Laparoscopy is an essential step prior to tubal surgery as it may not only preclude the unnecessary operation but may also provide essential information regarding the nature and extent of future surgery.⁶ Because of potential diagnostic and therapeutic benefits, patients with unexplained infertility and normal HSG findings should undergo diagnostic laparoscopy prior to ART.¹¹

In this study tubal patency test showed, the test was positive in both sides in 58.67% cases. There was unilateral block in 08 cases and bilateral block in 06 cases. In 1995 Adulesi et al found that 52% patients had both tubes patent and 48% patients had tubal block.⁷ Nabil et al in 1994 showed 46.06% of studied cases had bilateral tubal patency.¹

Pereira et al found normal tubal patency in 53% cases. Unilateral obstruction in 25.3% and bilateral obstruction in 20.50% cases.

Pelvic endometriosis was found in 9.33% cases, which is higher than Nabil et al who showed the incidence was 3.69% and Aduesi et al at 1.9%. Pereira et al found 24.4% cases of endometriosis which is much higher.

In this study the incidence of PCO was 42.66% which is noticeably higher than the study of Nabil et al (6.7%). In another study Aziz et al found 15.6%,¹² which is also much lower than the present study. This disparity may be due to the fact that many of the patients were referred to this centre for laparoscopy who failed ovulation induction.

Ovarian cyst was found in 8% cases which are also higher than Nabil et al (3.89%) and slightly higher than Adulesi et al who found that 7.7% of their patients had ovarian cysts.

CONCLUSION

Infertility by itself does not threaten physical health but has strong impact on the psychological and social wellbeing of couples. In developing countries like Bangladesh, couples, especially the female, are tormented from the various quarters of society for this condition which is very distressing. So, effort should be made to help them by establishing the cause of infertility and managing accordingly. Laparoscopy is an important and well-established

procedure which can help these patients by diagnosing the exact cause of infertility in time. It is also cost effective in the initial management of young women with infertility.

ACKNOWLEDGEMENT

The author wishes to thank the doctors and staff of Infertility department of BSMMU for allowing studying the case notes of patients of their care.

REFERENCES

- Nabil, M. EL-Tabbakh, Amin, A.M.(1994): Diagnostic laparoscopy in gynaecological problems: a retrospective study. OBGYN.net.
- Eskandari, N. and Cadieux, M.,(2003): Reproductive Endocrinology and Infertility, in Current Obstetric & Gynaecologic Diagnosis & Treatment, 9th Ed., eds: DeCherney, A.H. and Nathan, L., Lange/McGraw Hill, p 986.
- Morales, A. and Murphy, A. (1992): Operative Laparoscopy in gynaecology. Curr. Probl. Obstet. Gynecol. Fertil., XV(2):73.
- Youngblood, J.P (1992) : Advanced surgical techniques in obstetrics and gynaecology. Correspondence released by the council on Resident Education in Obstetrics and Gynaecology, 12th ED., St. S.W. Washington, D.C., p 409.
- Witt, B.R. (1991): Pelvic factor and fertility work up of the infertile women. Infertil. Reprod. Med. Clin. N. Am. 2(2):371-90.
- Chang, Y.S. Lee, J.Y. Moon, S.Y and Kim, J.G.(1987): Diagnostic laparoscopy in disorders. Asia Oceania J. Obstet. Gynaecol., 13(1):29-34.
- Adulesi, B. AL-Nuaim, L. and Mankanjuola, D.(1995): Diagnostic tubal patency. Fertil. Steril., 63(5):1016-19.
- Nezhat, C.R. Nezhat, F.R. Luciano, A.A. Siegler, A.M. Metzger, D.A. Nezhat, C.H.(1995): Operative gynaecologic Laparoscopy & Hysteroscopy. Principles of Laparoscopy, p 40.
- Haider, G. Rani, S. Talpur, S. Zehra, N. Munir, A.(2010): Laparoscopic evaluation of female infertility. J. Ayub Med. Coll. Abbottabad., 22(1): 136-8.
- Pereira, N.R. Leite, M.H. Ribeiro, R.N. Passarinho, R.M. Castro, M.G. Matias, S.M. (2010): Laparoscopy in the decision of treatment strategy for the infertile couple. Rev. Bras. Ginecol. Obstet., 32(9):441-6.
- Tsuji, I. Ami, K. Miyazaki, A. Hujinami, N. Hoshiai, H. (2009): Benefit of diagnostic Laparoscopy for patients with unexplained infertility and normal hysterosalpingography findings. Tohoku J. Exp. Med. 219(1): 39-42.
- Aziz, N. (2010): Laparoscopic evaluation of female factors in infertility. J. Coll. Physicians. Surg. Pak. 20(10) : 649-52.
- Moayeri, S.E. Lee, H.C. Lathi, R.B. Westphal, L.M. Milki, A.A. Garber, A.M. (2009): Laparoscopy in women with unexplained infertility: a cost effective analysis. Fertil. Steril. 92(2): 471-80.

Source of Support: Nil.

Conflict of Interest: None Declared.

Copyright: © the author(s) and publisher. IJMRP is an official publication of Ibn Sina Academy of Medieval Medicine & Sciences, registered in 2001 under Indian Trusts Act, 1882. This is an open access article distributed under the terms of the Creative Commons Attribution Non-commercial License, which permits unrestricted non-commercial use, distribution, and reproduction in any medium, provided the original work is properly cited.

Cite this article as: Arshad Jahan, Fatema Begum, Kona Chowdhury, Razia Begum, Mst Tahmina Parvin, Banika Biswas, AZM Zahid Hossain. Role of Diagnostic Laparoscopy in Evaluation of Infertile Women. Int J Med Res Prof. 2019 July; 5(4):45-47. DOI:10.21276/ijmrp.2019.5.4.011