DIAGNOSTIC LAPAROSCOPY- A RETROSPECTIVE STUDY

Nidhi Bansal¹, Amiben V. Gajera², Hiremath P. B³

¹Assistant Professor, Department of Obstetrics and Gynaecology, SVMCH and RC Ariyur, Pondicherry.

²Associate Professor, Department of Obstetrics and Gynaecology, SVMCH and RC Ariyur, Pondicherry.

³Professor, Department of Obstetrics and Gynaecology, SVMCH and RC Ariyur, Pondicherry.

ABSTRACT

BACKGROUND

Diagnostic Laparoscopy is a minimally invasive procedure, which gives a direct eye view of intra-abdominal organ and its pathology. Diagnostic Laparoscopy plays an important role in basic workup of infertility patients. Use of this diagnostic modality should be extended to the other indications, which provides excellent results making it easy for the correct and on time treatment.

MATERIALS AND METHODS

We have done a retrospective study of 87 patients who underwent diagnostic laparoscopy during investigations for primary infertility, secondary infertility, dysmenorrhoea, vague abdominal pain, past history of pelvic infection and abnormality. The Diagnostic Laparoscopy was carried out post-menstrually on the follicular phase of menstrual cycle under general anaesthesia.

RESULTS

We found four cases of disseminated abdominal pelvic tuberculosis. One patient histopathology report came as Gastrointestinal Stromal Tumour (GIST). Patient is put on imatinib therapy. One patient showed evidence of Accessory Cystic Uterine Mass (ACUM). Subsequently, we did laparotomy and all the cystic lesions were enucleated and the base was cauterised.

CONCLUSION

Approximately, two-third (67%) of cases had some form of tubo-ovarian pathology, which makes Laparoscopy an essential part of infertility workup. However, diagnostic laparoscopy has a significant role in patients with vague ultrasound findings. It would be advisable to perform Diagnostic Laparoscopy in selected cases of unexplained dysmenorrhoea. Wise and skilful use of Diagnostic Laparoscopy for innumerable indications in gynaecology practice aids the clinicians to arrive at the diagnosis at the earliest.

KEYWORDS

Infertility, Laparoscopy, Abdominal Tuberculosis, Diagnosis.

HOW TO CITE THIS ARTICLE: Bansal N, Gajera AV, Hiremath PB. Diagnostic laparoscopy- a retrospective study. J. Evolution Med. Dent. Sci. 2017;6(36):2936-2938, DOI: 10.14260/Jemds/2017/632

BACKGROUND

Diagnostic Laparoscopy is a minimally invasive procedure, which gives a direct eye view of intra-abdominal organ and its pathology.¹ Diagnostic laparoscopy was first performed in 1901 by Killing in a dog which was called "Celioscopy."² A Swedish Internist named Jacobaeuse, it is credited with performing the first diagnostic laparoscopy on humans in 1910. Diagnostic Laparoscopy is safe and tolerated well; it can be performed in outpatient or in patient setting under general anaesthesia.³ Laparoscopic surgeries present unique anaesthetic challenges, which are not seen in open surgery. These include the effects of pneumoperitoneum, patient positioning, extraperitoneal gas insufflation and venous embolism.⁴

Aim

To find out the role of diagnostic laparoscopy in cases of infertility, vague chronic abdominal pain and doubtful pelvic pathology.

Financial or Other, Competing Interest: None.

Submission 13-04-2017, Peer Review 25-04-2017,

Acceptance 27-04-2017, Published 04-05-2017.

Corresponding Author:

Hiremath P. B,

Department of Obstetrics & Gynaecology,

SVMCH & RC Ariyur,

Pondicherry -605102.

E-mail: fortel0312@gmail.com

DOI: 10.14260/jemds/2017/632

Objective

To diagnose hitherto undiagnosed causes like pelvic tuberculosis that lead to female infertility, vague abdominal discomfort and hidden pelvic pathology.

MATERIALS AND METHODS

We have done a retrospective study of 87 patients who underwent diagnostic laparoscopy during investigations for primary infertility, secondary infertility, dysmenorrhoea, vague abdominal pain, past history of pelvic infection and abnormal hysterosalpingography results. This study was conducted at SVMCH and RC Ariyur, Pondicherry between January 2012 and August 2015. Before the procedure, detailed history was taken thorough examination was done. Basic investigations like Ultrasonography (USG), semen analysis and other investigation as and when required was done. Written informed consent was taken from all patients. Comorbid medical conditions like Diabetes Mellitus, Hypertension, Thyroid Disease if any were looked in and cardiologist or physician opinion were sought for the same. Pre-anaesthetic evaluation was done to all patients. The Diagnostic Laparoscopy was carried out post menstrually on the follicular phase of menstrual cycle under general anaesthesia. Methylene blue dye was used to test the tubal patency, laparoscopic ovarian drilling was done in Polycystic Ovarian Disease (PCOD), omental biopsy was taken in suspected tuberculosis, cystectomy was done in presence of ovarian cyst, adhesions or other associated pathologies were dealt accordingly. Direct trochar entry was used routinely.

However, in obese patients for diagnostic laparoscopy, Hasson open technique was done.

In the post-operative period, all patients were kept for observation and monitoring in Surgical Intensive Care Unit. Single dose of Intravenous (IV) antibiotic ciprofloxacin or cefotaxime was given. Patients were discharged at 24 hrs. and followed up later. All histopathology reports were reviewed.

RESULTS

Totally, we performed Diagnostic Laparoscopy for 110 patients. Majority indications were infertility, 66 patients were primary and 34 patients were secondary infertility. Duration of infertility was between 2 to 7 years (Table No. I). We considered Diagnostic Laparoscopy in 4 multiparas patients, in whom USG findings were moderate free fluid in the pelvis. These patients had vague abdominal symptoms and signs. All these patients' symptoms were suggestive of abdominal tuberculosis on diagnostic Laparoscopy. In all of them omental biopsy was taken, which showed tuberculosis on histopathology. Subsequently, they were put on antitubercular treatment and they showed significant improvement on followup. Among the infertility patients 22 showed bilateral tubal block, 9 showed unilateral tubal block, 2 patients had rudimentary uterine horn, 11 of them had hydrosalpinx, 13 patients showed simple ovarian cysts and 20 of them showed evidence of PCOD. For one patient diagnostic laparoscopy was done, severe dysmenorrhoea in USG was normal, in this particular patient, diagnostic laparoscopy showed multiple cysts on the uterine wall (ACUM). One patient was posted for Diagnostic Laparoscopy for doubtful fibroid uterus; in this case it was small bowel mass which was removed and histopathology report came as Gastrointestinal Stromal Tumour (GIST). In one case, we found a retroperitoneal mass (Table No. II).

Age Distribution	Number	Percentage
< 20	Nil	0
20 - 30	73	66.36%
30 - 40	37	33.63%
Age in Years	Primary Infertility	Secondary Infertility
< 20	Nil	Nil
20 - 30	40 (36.36%)	18 (16.36%)
> 30	26 (23.63%)	16 (14.54%)
Duration of Infertility	Number	Percentage
< 2 years	Nil	Nil
2 - 5 years	44 (40%)	10 (9.09%)
> 5 years	20 (18.18%)	25 (22.72%)

Table I. Patient's Profile

Abnormal Pelvic Pathology	Number	Percentage
Unilateral tubal block	9	17.3%
Bilateral tubal block	22	42.3%
Uterine malformations	2	3.8%
Tubo-ovarian mass	8	15.3%
Hydrosalpinx	11	21.15%
Total	52	100%
Ovarian Pathology	Number	Percentage

Functional Ovarian Cyst	13	30.2%
PCOD	20	46.5%
Chocolate cyst	6	14%
Dermoid cyst	4	9.30%
Total	43	100%
Associated Pathologies	Number	Percentage
Abdomino/Pelvic Tuberculosis	4	3.63%
Retroperitoneal Mass	1	0.9%
Bowel abnormalities	1	0.9%
Miscellaneous	1	0.9% 1 ACUM

Table II. Pelvic Findings

DISCUSSION

We have performed number of diagnostic laparoscopies since 2011 till date. We found four cases of disseminated abdominal pelvic tuberculosis. Among these patients one patient is a case of primary infertility for 7 years, one patient is a case of primary infertility for 3 years, remaining both patients were admitted with history of vague abdominal pain. None of these patients had any signs or symptoms of tuberculosis, either the pulmonary or extrapulmonary. In all patients, tuberculosis was confirmed by omental biopsy and ATT was started. All patients showed improvement, except the fertility. Abdominal tuberculosis presenting different signs and symptoms, it is mandatory to the Diagnostic Laparoscopy for the patients with vague abdominal complaints or USG evidence of unexplained moderate free fluid in pelvis.⁵ In one patient, second look diagnostic laparoscopic was done on her repeated request. Unfortunately, ileum was injured while doing Hasson's technique. These cases of tuberculosis give us a clue to understand that symptomatology of abdominal pelvic tuberculosis is changing. It is also evident that second look of laparoscopic surgeries in these cases are dangerous.⁶

One diagnostic laparoscopy was done in a patient suspected with pedunculated fibroid. On laparoscopy, a mass arising from the small bowel was noted, which was adherent to uterus. Bowel injury was sustained in an attempt to separate mass from bowel. Subsequently, laparotomy was done with small bowel resection and end-to-end anastomosis. The histopathology report came as Gastrointestinal Stromal Tumour (GIST). Patient is on imatinib therapy.

We had performed diagnostic laparoscopy on few patients with severe dysmenorrhoea.^{7,8} Out of these, one patient showed evidence of Accessory Cystic Uterine Mass. Subsequently, we did laparotomy and all the cystic lesions were enucleated and the base was cauterised. Post-operative followup of patient showed significant improvement of dysmenorrhea. Histopathology showed evidence of endometrial glands in cyst wall. Even though ACUM is rare in India and more prevalent in Japanese, it would be advisable to perform Diagnostic Laparoscopy in selected cases of unexplained dysmenorrhoea.

CONCLUSION

Approximately, two-third (67%) of cases had some form of Tubo-ovarian pathology which makes Laparoscopy as an essential part of infertility workup. However, diagnostic laparoscopy has a significant role in patients with vague ultrasound findings. It would be advisable to perform Diagnostic Laparoscopy in selected cases of unexplained

dysmenorrhoea. Wise and skilful use of Diagnostic Laparoscopy for innumerable indications in gynaecology practice aids the clinicians to arrive at the diagnosis at the earliest.

REFERENCES

- [1] Tsuji I, Ami K, Miyazaki A, et al. Benefit of diagnostic laparoscopy for patients with unexplained infertility and normal hysterosalpingography findings. *Tohoku J Exp Med* 2009;219(1):39-42.
- [2] Siristatidis C, Bhattacharya S. Unexplained infertility: does it really exist? Does it matter? *Hum Reprod* 2007;22(8):2084-7.
- [3] Crosignani PG, Collins J, Cooke ID, et al. Recommendations of the ESHRE workshop on 'Unexplained Infertility'. *Anacapri*, August 28-9, 1992. *Hum Reprod* 1993;8(6):977-80.
- [4] Ray A, Shah A, Gudi A, et al. Unexplained infertility: an update and review of practice. *Reprod Biomed Online* 2012;24(6):591-602.
- [5] Lal V, Deolekhar S, Shaikh TP, et al. Study to evaluate the role of laparoscopy in chronic abdominal pain. *Int J Res Med Sci* 2015;3(1):36-40.
- [6] Dhaigude BD, Bhushan A, Singh AK, et al. Therapeutic role of diagnostic laparoscopy in chronic abdominal pain. *Indian J Appl Res* 2016;6(4):1-3.
- [7] Shetty SK, Shetty H, Rai S. Laparoscopic evaluation of tubal factor in cases of infertility. *Int J Reprod Contracept Obstet Gynecol* 2013;2(3):410-13.
- [8] Aziz N. Laparoscopic evaluation of female factors in infertility. *Journal of the College of Physicians and Surgeons Pakistan* 2010;20(10):649-52.