Research Paper

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Study of Role of Laproscopy in Endometriosis Related Infertility and its Outcomes

Medical Science

KEYWORDS : Endometriosis, Laparoscopy, Infertility, Pregnancy rate

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ABSTRACT

Aims and Objective: This is a retrospective study of 30 cases of pelvic endometriosis related infertility and its laparoscopic management carried out at tertiary centre. Aims and objectives of this study are the following:

1. To study the role of laparoscopy in diagnosis and management in endometriosis related infertility.

2. To explore whether laparoscopic surgery improves the chances of conception both by natural and assisted conception methods in endometriosis related infertility.

Method: Retrospective review of English literature regarding role of laparoscopic surgery in managing endometriosis associated infertility.

Result: Out of 30 women having endometriosis related infertility, 11 women (37%) among the age group of 27-29 years. 24 women (80%) were nulligravida. 13 women (43%) were having mild degree and 14 women (44%) were having moderate degree endometriosis. 14 women (63%) were having endometriosis in ovarian tissue.18 women (60%) conceived after laparoscopic surgery.

Conclusion: In spite of heterogenieity among the available studies, current evidence suggest that laparoscopic surgery in form of fulgration or cystectomy improves pregnancy rate.

INTRODUCTION

Endometriosis is a common disease of reproductive age group women. It was first described by Dr Sampson in 1925 as, "presence of ectopic tissue which possesses the histological structure and function of uterine mucosa."

Endometriosis was first described in 1860 by Von Rokitansky and endometriosis is one of the most prevalent disease in Gynecology. There is a paucity of knowledge about its epidemiology. In addition there is also a lack of consensus on a precise definition and pathophysiology, but recent researches suggest morphological differences between endometriosis and endometrium.

Endometriosis can be a chronic, debilitating gynaecological condition among women of reproductive age causing pain and infertility.The incidence of endometriosis remains unknown because of the poor correlation between its presence and symptoms. Thepathogenesis and mechanism by which it causes infertility is poorly understood.

Over the last two decades, there has been a large number of increases in infertile patients found to have endometriosis. It is uncertain whether this represents an increase, or simply a reflection of the more frequent use of laparoscopy. Endometriosis accounts for 10-15% of infertility. There is an increasing trend towards treating infertile with endometriosis surgically. This review explores the evidence available particularly addressing the use of laparoscopic surgery and its effect on the probability of pregnancy.

We reviewed the literature using all the available English databases. Cochrane register and articles which addressed the question "does laparoscopic surgery improve pregnancy rates in women with infertility associated with moderate severe endometriosis?"

METHODS AND MATERIALS

A retrospective study of 30 cases of endometriosis related infertility and role of laparoscopy in it was carried out from July2012 to March 2013 in our institute.

In all cases detail history, clinical examination and routine investigations were carried out. Husbands were examined and their seminal fluid examination done.Patients in the study were asked about their parity, age, obstetric history, menstrual history, any treatment of infertility taken. Clinical examination includes general examination- pulse, blood pressure, pallor, RS and CVS. Local examinations- Per abdomen examination for any palpable mass or any tenderness, Per speculum examination to examine rectovaginal nodule, and posterior vaginal wall for typical bluish lesion, Per vaginal examination for uterine size, mobility of uterus, fullness in fornices, tenderness on cervical movement, palpable uterosacral ligament nodules.

Severity was classified as according to Revised American Fertility Society classification into minimal, mild, moderate and severe. All routine investigation e.g. Complete blood count, Blood group, Random blood sugar, RFT, LFT, Urine examination, Specific investigations in form of CA 125, HSF, Laparoscopy and Hysteroscopy,Hormonal investigations e.g. S.LH, S.FSH, S.Prolactin. Imaging investigations e.g. USG, Colour doppler, CT scan, MRI, had been done.

Every patient was admitted in the hospital a day prior to the procedure and procedure and risks were explained. Preoperative counselling was done. Written consent of the patient and relative risks were taken.All the diagnostic laparoscopies were performed under general anaesthesia with endotracheal intubation and maintained on gas, oxygen, and halothane or isoflurane. During laparoscopy or laparotomy site of endometriosis was noted in form of involvement of structure. e.g. ovary, fallopian tubes, uterosacral ligaments and diffuse. During laparoscopy material taken from involved area and sent for histopathological examination and diagnosis confirmed. Laparoscopy is diagnostic as well as therapeutic tool for pelvic endometriosis. At the end of procedure whole peritoneal cavity examination was done.

Most of the patients undergone laparoscopic management e.g. fulgration of endometriotic nodules, ovarian cystectomy, adhesiolysis in mild and moderate endometriosis and least patients undergone laparotomy with adhesiolysis and panhysterectomy in severe cases.

After procedure was over patient was completely out of anaesthesia and patients transferred to ward. Vital signs were observed. Antibiotics were given. They were discharged on next day. Medical treatment after definitive surgery given for 6 months depending upon severity. We had done follow up of all

patients for 1 year. Those patients who did not come for follow up were excluded from study. We had followed up in form of pregnancy and reduction of symptoms.

OBSERVATION AND RESULTS

Table-1 Distribution of cases according to age

Age	No of patients having endometriosis related infertility	Percentage
18-20	3	10%
21-23	1	2%
24-26	7	24%
27-29	11	37%
30-32	8	27%

In study most of patients were belongs to 27-29 year(37%) because of late marriage and late conception, second most common age group affected was 30-32(27%).

Table-2 Distribution of cases according to parity

Parity	N0 of patients	Percentage
Nulligravida	24	80%
Primipara	4	13%
Multipara	2	7%

Above study shows that 24 patients(80%) affected were nulligravida who suffering from infertility and diagnosed during investigation , only 2 patients (7%) were multipara.

Table-3 Distribution of cases according to severity

Stage	No of patients	Percentage
Mild	13	43%
Moderate	14	47%
Severe	3	10%

In our study 13 patients(43%) suffering from mild, 14 patients (47%) suffering from moderate, and 3 patients(10%) suffering from severe endometriosis.

Table-4 Distribution of cases according to site of involvement

Site	No of patients	Percentage
Ovaries	19	63%
Uterosacral ligament	5	17%
Fallopian tubes	1	3%
Diffuse(ovaries, uterosacral ligament, fallopian tubes, bowel, bladder)	5	17%

In our study endometriosis involves ovaries in 19 cases, uterosacral ligaments in 5 cases, fallopian tubes in 1 case and rest 5 cases affected with diffuse endometriosis. Site of affection suggests severity, stage, treatment plan, clinical features and outcome of pregnancy.

Table-5 Outcome of pregnancy after therapeutic laparoscopy

Patients conceived	No of patients	Percentage
Yes	18	60%
No	12	40%
Total	30	100%

In our study we had performed diagnostic as well as therapeutic laparoscopy in all patients(30 patients). Out of them 18 patients(60%) had conceived and 12 patients(40%) had not conceived.

Table-6 various laparoscopic management of endometriosis related infertility.

Type of surgery	No of patients	Percentage
Fulgration	16	53%
Cystectomy	9	30%
H+SO+Adhesiolysis	5	17%

More number of patients benefitted with fulgration of endometriotic nodules(16 cases) and cystectomy(9 cases) but in severe 5 cases we have to do hysterectomy with salpingoophorectomy and adhesiolysis.

DISCUSSION:

Endometriosis can be treated medically and surgically by laparoscopy and laparotomy. Medical treatment has no role in endometriosis related infertility in the absence of pain. This is because any hormonal treatment used to suppress endometriosis is contraceptive and does not improve pregnancy rates. Surgical treatment includes laser/diathermy, ablation to endometriotic implant, adhesiolysis, excision of endometriotic cyst, cyst drainage and/or cyst wall ablation and uterosacral nerve ablation.

Few studies reported that laparoscopic excision of endometriomata before in vitro fertilisation(IVF) reduces the risk of worsening endometriosis during ovarian stimulation, reduces the risk of infection during oocyte retrieval and allows histological diagnosis, avoiding occult malignancy. It has therefore been advocated that the best management of endometriosis associated infertility should be surgical.[1] If spontaneus pregnancy does not occur after surgery, IVF should be considered.2

A large prospective study by Adamson et al 19933 showed that laparoscopic surgery significantly increases the cumulative pregnancy rates. This was later confirmed by metaanalysis by Adamson and Pasta in 1994.4

Adamson in 19975 proposed that surgery for endometriosis associated infertility is more effective for severe than mild endometriosis and ideally should be carried out at the time of diagnostic laparoscopy. Laparoscopic treatment therefore is ideal, because it preserves tissue integrity and reduces denovo adhesion formation. 6

In a five year follow up of women after laparoscopic surgery, Porpora et al 20027 reported 65% pregnancy rate, with 23% of women conceiving in the first twelve months. After 12 months the likely hood of conceiving was significantly decreased.

Two randomised controlled trials reported that laparoscopic ovarian cystectomy for endometriomata results in a better pregnancy rates than drainage alone. In a one year follow up after laparosopic fenestration and coagulation of wall, Aborzi et al reported 59.4% pregnancy rate.8,9

When cystecomy for endometrioma is technically difficult, laparoscopic aspiration of cyst and destruction of cyst wall with laser or diathermy is an acceptable alternative.In a variable follow up after lap cautery or laser or laparoscopic cystectomy, Vercellini et al reported 24-60% pregnancy rate.10

A randomised crossover study involving 39 women followed up for 12 months reported reduction of chronic pelvic pain and dyspareunia after laparoscopic debulking for rectovaginal endometriosis thereby improving quality of life.11

In a two year follow up of women after laparoscopic surgery, Elsheikh et al 2003 reported 53% pregnancy rate.

In our study, in a one year follow up of 30 patients of endometriosis related infertility undergoing laparoscopic surgery in form of fulgration and cystectomy, we had reported 60% pregnancy rate.

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CONCLUSION:

There is no large, prospective, randomised double-blind controlled trial that specifically addresses the question "does Laparoscopic surgery in moderate-severe endometriosis improve pregnancy rates?" In spite of heterogeneity among available studies current evidence and our study suggests that laparoscopic surgery either fulgration or cystectomy improves pregnancy rates (in our study out of 30 women having endometriosis related infertility 18 women conceived) both by natural and assisted conception. Assisted Reproductive Techniques should be considered if conception has not occurred by 12 months after surgery. Advantages of laparoscopic surgery are quicker recovery time, shorter hospital stay, reduced physical and psychological stress, effective treatment of ovarian endometriomata and relief of pain.

REFERENCE

1. SearselliG, Rizzelo F, Cammilli F, Ginocchini L, et al. Diagnosis and treatment of endometriosis a review. Minerva Ginecol 2005;57(1):55-78. | 2. RCOG. The management of Infertility in Secondary care. Royal College of Obstetrician and Gynaecologists 1998. | 3. Adamson GD, Hurd SJ, Pasta DJ, Rodriguez BD. Laparoscopic endometriosis treatment: is it better? Fertil Steril1993;59:35-44. | 4.Adamson GD, Pasta DJ. Surgical treatment of endometriosis associated infertility: meta-analysis compared with survival analysis. Am J Obstet Gynecol 1994;171:1488-1504 | 5.Adamson GD. Treatment of endometriosis-associated infertility, Seminars in Reproductive Endocrinology 1997;15:263-71. | 6.Gant NF. Infertility and Endometriosis: comparison of pregnancy outcomes with laparotomy versus laparoscopic techniques. Am J Obstet Gynecol 1992;166:1072-81. | 7. Porpora MG, Pultrone DC, BEllavia M, Franco C, et al. Reproductive outcome after laparoscopic treatment of endometriosis. Clin Exp Obstet Gynecol 2002;29(4:271-3. | 8. Beretta P, Francln M, Ghezzi F, Busacca M, et al. Randomised clinical trial of two laparoscopic treatments of endometriomas. , cystectomy versus drainage and coagulation. Fertil Steril 1998;70(6):1176-80. | 9. Alborzi S, Momtahan M, Persanezhad ME, Dehbashi S, et al. A prospective randomized study comparing laparoscopic ovarian cystectomy versus fenestration and coagulation in patients with endometriomas. Fertil Steril 2004;82(6):1633-7. | 10. Chapron C, Vercellini P, vieira M, Barakat H, et al. Management of ovarian endometriomas. Hum Reprod Update 2002;8:6-7. | 11. Garry R. The effectiveness of laparoscopic excision of endometriosis. Curr Opin Obstet Gynecol 2004;16(4):299-303. |