

DOI: <http://dx.doi.org/10.18203/2320-1770.ijrcog20195332>

Original Research Article

A prospective study of endometriosis and its outcome at tertiary care centre

Shilpa Ninama¹, Bijal D. Rami^{2*}

¹Department of Obstetrics and Gynecology, GMERS Medical College, Himmatnager, Gujarat, India

²Department of Obstetrics and Gynecology, Baroda Medical College, Baroda, Gujarat, India

Received: 05 October 2019

Accepted: 06 November 2019

***Correspondence:**

Dr. Bijal D. Rami,

E-mail: bijalrami323@yahoo.com

Copyright: © the author(s), publisher and licensee Medip Academy. 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.

ABSTRACT

Background: This study was conducted to detect various presenting clinical features, type and severity of pelvic endometriosis according to revised American fertility society classification. Objective of this study was to assess outcome of endometriosis after medical and surgical treatment in form of pregnancy, reduction of symptoms like dysmenorrhoea, dyspareunia and others.

Methods: This prospective study conducted at one of tertiary care teaching institutes for period of 3 years from January 2011 to December 2013. A total number of 100 patients of pelvic endometriosis were examined and divided according to Revised American Fertility Society Classification on bases of severity, type and clinical features and laparoscopic findings. After 1 year of follow up, outcome assessed after completion of medical and surgical treatment in form of pregnancy, reduction of dysmenorrhoea and dyspareunia and other symptoms.

Results: This study showed most affected patients (46%) belongs to 26-30 years of age group, dysmenorrhoea was the most common presenting symptoms in 76% patients. Most common site affected (52%) was ovaries. Laparoscopy was done in 86% patients. Most patients (44%) were benefited with fulguration of endometriotic nodules. 62% of patients were given oral contraceptive pills or progesterone pills after definitive surgery as freely available in Governmental setup and fewer side effects as compared to Danazol and GnRH analogues. 40 patients became pregnant after medical and surgical treatment, where 60 patients had reduced dysmenorrhoea and 20 patients had reduced dyspareunia.

Conclusions: Laparoscopy is gold standard diagnostic as well as therapeutic tool in pelvic endometriosis as it can rule out other causes of infertility without interfering normal anatomy.

Keywords: Dyspareunia, Dysmenorrhoea, Endometriosis, Infertility, Laparoscopy, Revised American fertility society classification

INTRODUCTION

Endometriosis is endometrium including both endometrial glands and stroma in an ectopic location (Albee, 1997).¹ These cells respond to fluctuations of hormones oestrogen and progesterone by ovaries during the menstrual cycle. Endo=within, Metri= uterus (womb),

Osis=condition. Endometriosis is found in 10-12% of women, primarily found in women during their child-bearing years, common among adolescents. Endometriosis is not cancer and there is no cure for it. It is one of the most common diseases, but it is also one of the least understood. Endometriosis responds well to oestrogen and progesterone.² Endometrial tissue is found

living outside the uterus, if no pregnancy occurs the endometrial lining is shed, the endometrial tissue found outside the uterus breaks down as well causing internal bleeding, this internal bleeding is absorbed by the surrounding tissue, over time implanted tissues grow and form a build-up of destructive scar tissue and adhesions, collection of blood called a sac or cyst can form and rupture, causing excruciating pain.³ Usually endometriosis is found in the pelvic area. It has been found on every pelvic organ, including the uterus (17-55%), ovaries (40-60%), tubes, ligaments, uterus, bowel and bladder. However, it can be found anywhere in the body, it has been found in the lungs, knees, nose, arms, brain. Conventional medical and surgical treatments for endometriosis aim to remove or decrease deposits of ectopic endometrial deposits. They achieve this either by inducing atrophy within the hormonally dependent ectopic endometrium or by destroying the endometriotic implant. Surgery is also used to alleviate painful symptoms by dividing adhesions and interrupting neural pathways. Medical management can be relatively effective for mild to moderate endometriosis, particularly for woman with superficial rather than deep peritoneal implants.⁴ For severe cases of endometriosis definitive surgery like hysterectomy or second look surgery can also be done. Laparoscopy is gold standard tool in endometriosis because it is diagnostic as well as therapeutic benefit over laparotomy.

METHODS

A prospective study of 100 cases of pelvic endometriosis was carried from January 2011-December 2013 at tertiary care teaching hospital. All the patients were classified according to various presenting features e.g. dysmenorrhoea, infertility, dyspareunia and others-tenesmus, dysuria, retention of urine, painful defecation. Patient in study were asked about their parity, age, obstetric history, menstrual history and history of any infertility treatment. After general examination, local examination for palpable mass per abdomen, per speculum examination for rectovaginal nodule, per vaginal examination for uterine size, mobility of uterus, fullness of fornices, tenderness on cervical movement, palpable uterosacral ligament nodules and per rectal examination done lastly. Severity was classified according to revised American fertility society classification into minimal, mild, moderate and severe. After all routine investigations, specific investigation in form of CA-125, semen examination and laparoscopy were carried out. Imaging investigations e.g. USG with colour doppler done. In some cases, CT scan or MRI was done. During laparoscopy or laparotomy site of endometriosis was noted in form of involvement of structures e.g. ovary, fallopian tube, uterosacral ligaments and diffuse peritoneal involvement. During surgery material was taken from involved area and sent for histopathological examination and diagnosis confirmed. Majority of patients undergone laparoscopic management e.g. fulguration of endometriotic nodules, ovarian

cystectomy, adhesiolysis in case of mild to moderate endometriosis. Rest of patients undergone laparotomy for severe adhesiolysis and pan hysterectomy in severe cases of endometriosis. Medical treatment after definitive surgery was given for period of 6-9 months depending upon severity. We followed up each case in form of pregnancy and reduction of symptoms over the period of 1 year.

Statistical analysis

A study designed to record history, presenting complaints, per abdominal examination, per vaginal examination, per rectal examination, USG findings. After definitive diagnosis plan of management was decided. Post-operative follow-up and post-operative medical management was given according to case. Data analysed and tabulated after collection. The results presented as numbers and percentages. The analysed data was compared with different studies and discussed.

RESULTS

This study includes 100 cases of pelvic endometriosis to rule out its outcome and management at our institute.

Table 1: Distribution according to age groups.

Age	No.	Percentage
<21 year	6	6%
21-25 year	30	30%
26-30 year	46	46%
31-35 year	10	10%
>36 year	8	8%

In this study most of patients (46%) belonged to 26-30 years because of late marriage and late conception. Second most common age group affected was 21-25 years (30%). (Table 1)

Table 2: Distribution according to clinical features.

Clinical features	No.	Percentage
Dysmenorrhoea	76	76%
Infertility	70	70%
Dyspareunia	36	36%
Others (bowel, bladder and other symptoms)	14	14%

Table 2 shows that dysmenorrhoea was the most common presenting symptoms in 76% patients, 70% patients were suffering from infertility and only 36% patients were suffering from dyspareunia. 14% were suffering from other features including e.g. tenesmus, retention of urine, frequency of urine, painful defecation. Symptoms are not related with extent of lesion. There may be no symptoms or intense symptoms with minimal lesion. Depth of penetration is more related to symptoms rather than the spread. Lesions penetrating more than 5 mm are

responsible for pain, dysmenorrhoea and dyspareunia. Whether endometriosis causes infertility or infertility produce endometriosis is not clear. Dyspareunia is usually deep, due to stretching of structures of pouch of Douglas or direct contact tenderness.

Table 3: Distributions according to parity.

Parity	No.	Percentage
Nulligravida	74	74%
Primipara	20	20%
Multipara	6	6%

Table 3 that 74% patients affected were nulligravida who suffering from infertility and diagnosed during the investigation, only 6% patients were multipara. Patients with endometriosis are mostly nulliparous or have had one or more children long years prior to appearance of symptoms.

Table 4: Distribution according to stage.

Stage	No.	Percentage
Minimal	20	20%
Mild	24	24%
Moderate	42	42%
Severe	14	14%

In this study 20% patients were suffering from minimal, 24% patients were suffering from mild, 42% patients were suffering from moderate and 14% patients were suffering from severe endometriosis. According to severity of endometriosis treatment plan was selected. Midline lesions are more symptomatic. Degree of pain is not related to the severity of endometriosis.

Table 5: Distribution according to site of involvement.

Site	No.	Percentage
Ovaries	52	52%
Uterosacral ligament	24	24%
Fallopian tubes	4	4%
Diffuse, peritoneum	20	20%

Table 6: Types of surgeries in endometriosis management.

Surgery	No.	Percentage
Fulguration	44	44%
Ovarian cystectomy	42	42%
Pan hysterectomy with adhesiolysis	14	14%

In this study endometriosis involving ovaries in 52 cases, uterosacral ligaments in 24 cases, fallopian tube in 4 cases and rest 20 cases affected had diffuse endometriosis. Site of affection of tissue suggests the

severity, stage, treatment plan, clinical features and outcome of endometriosis.

More number of patients benefited with fulguration of endometriotic nodules in 44 cases and with ovarian cystectomy in 42 cases. In 14 severe cases we have done pan hysterectomy and adhesiolysis. Following medical suppression or other conservative surgery, residual endometriotic lesions may regenerate once the ovarian function is re-established.

Table 7: Type of medical management.

Treatment	No.	Percentage
Oral contraceptive pills or progesterone pills	62	62%
GnRH analogues	32	32%
Danazol	6	6%

In this study, we have given Oral contraceptive pills or progesterone pills in 62 patients after definitive surgical treatment because pills are free in Governmental supply, cost effective, less side effects as compare to Danazol and GnRH analogues. The idea of postoperative hormonal therapy is to destroy the residual lesions left behind after surgery and to control the pain. But it does not improve fertility. For quick relief of symptoms and reduction of volume of lesion, GnRH analogues are the best. Patients should use barrier methods to avoid virilisation of a female fetus in case of accidental pregnancy. Progesterone takes the same time to achieve these objectives. Danazol is placed midway between the two, but it is costly. Taking every aspect together no single medical treatment is superior to others.

Table 8: Outcome of study.

Outcome	No.	Percentage
Pregnancy	40/70	57%
Dysmenorrhoea reduce	60/76	79%
Dyspareunia reduce	20/36	56%

Above table shows that in our study 40 patients conceived after medical and surgical treatments, 60 patients had reduced dysmenorrhoea and 20 patients had reduced dyspareunia. Pregnancy was the main positive outcome of our study.

DISCUSSION

This prospective study shows 100 cases of pelvic endometriosis and its outcome over the periods of 3 years at tertiary teaching hospital of Gujarat. The most patients (46%) were affected belongs to 26-30 years of age group. Dysmenorrhoea was the most common presenting symptoms in 76% patients. Most common affected site in this study was ovary (52%), which was similar to study by Vercellini P et al, in which most common affected site (44.3%) was ovary.⁵ In present study 44% patients were

suffering from minimal or mild type and 56% patients suffering from moderate or severe type of endometriosis, which was similar to study by Vercellini P et al, in which 36.1% were minimal or mild type and 63.9% were from moderate or severe type of endometriosis.⁵ Laparoscopy was done in 86% patients and laparotomy was done in 14% patients. Most of patients (44%) were benefited with fulguration of endometriotic nodules. Oral contraceptive pills or progesterone pills were given in 62% patients after definitive surgery as freely available in Governmental setup and fewer side effects as compared to Danazol and GnRH analogues. 40 patients became pregnant after medical and surgical treatment, 60 patients had reduced dysmenorrhoea and 20 patients had reduced dyspareunia. Endometriosis is an enigmatic disease and leading cause of infertility and its incidence is rising. Endometriosis is a disease in reproductive years of a woman as its growth depends on oestrogen. The incidence is about 10%, high amongst infertile woman as based on diagnostic laparoscopy and laparotomy. Clinical diagnosis is by the classical symptoms of progressively increasing dysmenorrhoea, dyspareunia, infertility and feel of nodules in the pouch of Douglas.⁴ The severity of chronic pelvic pain correlated with deep endometriosis on uterosacral ligaments. Female age, duration of infertility, pelvic pain, and stage of endometriosis should be considered when formulating a management plan. Current medical treatments of endometriosis depend on drugs that suppress ovarian steroids and induce hypo oestrogenic state that cause atrophy of ectopic endometrium. Laparoscopy is best choice of treatment over laparotomy in mild and moderate endometriosis. Where laparotomy is preferred choice in big chocolate cyst and severe endometriosis. Studies have shown that recurrence of endometriosis within 5 years following conservative surgery is 20-40%.¹ Second look laparoscopy has been suggested as an appropriate procedure for additional lysis of pelvic adhesions in patients who have undergone a laparotomy or laparoscopy for resection of endometriosis.² Each approach has advantages and disadvantages. The advantages of surgery are demonstrated efficacy for pain control it is more effective for infertility than medicinal intervention.⁹ Underlying process that causes endometriosis may not cease after surgical or medical intervention. Diagnosis and Treatment of Endometriosis by Laparoscopy requires a surgeon with expertise Laproscopic surgery as Endometriosis can present with classic lesion as well as have non classical appearance.⁶ Pregnancy rates have been shown to be highest in first 2 months after surgery.⁷ Monitoring of patients consists of periodic clinical examinations and sonography. Recurrence of endometrioma after laparoscopy is 6-30%, whereas after GnRH agonists is 53-74% depending on severity of the disease. For women with severe endometriosis who fail to conceive following surgery, IVF ET is an effective alternative. The Cochrane reviews and the RCOG guidelines are in agreement that there is a definite improvement in infertility associated with endometriosis with laparoscopic surgery. In addition,

laparoscopic surgery for mild and moderate endometriosis results in a significant degree of pain relief at six months compared to expectant management.⁸ If diagnostic laparoscopy has been done in mild disease along with fulguration of implants, it is associated with a better fertility outcome and relief from pelvic pain.⁹

CONCLUSION

Laparoscopy is gold standard for diagnostic as well as therapeutic tool in pelvic endometriosis as laparoscopy can rule out other causes of infertility without interfering normal anatomy. Advantages to the laparoscopy is speed up due to half the operating time, haemostasis, less hospital stay, small skin scar, early regain to daily activities. Operative laparoscopy is more value than laparotomy in upto 75% of all gynaecologic surgery for pelvic pain and endometriosis.

Funding: No funding sources

Conflict of interest: None declared

Ethical approval: Not required

REFERENCES

1. Fauser BCJM, Diedrich K, Bouchard P, Domínguez F, Matzuk M, Franks S, et al. Contemporary genetic technologies and female reproduction. *Human Repro Update.* 2011;17(6):829-47.
2. Painter JN, Anderson CA, Nyholt DR, Macgregor S, Lin J, Lee SH, et al. Genome-wide association study identifies a locus at 7p15. 2 associated with endometriosis. *Nature Genet.* 2011;43(1):51-4.
3. Buyalos RP, Agarwal SK. Endometriosis-associated infertility. *Cur Opin Obstet Gynecol* 2000;12(5):377-81.
4. Sinaii N, Cleary SD, Ballweg ML, Nieman LK, Stratton P. High rates of autoimmune and endocrine disorders, fibromyalgia, chronic fatigue syndrome and atopic diseases among women with endometriosis: a survey analysis. *Human Repro.* 2002;17(10):2715-24.
5. Vercellini P, Trespidi L, De Giorgi O, Cortesi I, Parazzini F, Crosignani PG. Endometriosis and pelvic pain: relation to disease stage and localization. *Fert Ster.* 1996;65(2):299-304.
6. Shah P, Adlakhia A, Laproscopic management of moderate: Severe Endometriosis. *J Minimal Access Surg.* 2014 Jan-Mar;10(1):27-33.
7. Fuchs F, Raunal P, Salama S, Guillot E, Le Tohic A, Chis C, et al. Reproductive Outcome after Laproscopic treatment of endometriosis in infertile Population. *J Gynecol Obstet Biol Reprod (Paris).* 2007;36:354-9.
8. Capellino S, Montagna P, Villaggio B. Role of estrogens in inflammatory response: expression of estrogen receptors in peritoneal fluid macrophages from endometriosis. *Ann New York Acad Sci.* 2006;1069:263-7.

9. Treloar SA, Wicks J, Nyholt DR, Montgomery GW, Bahlo M, Smith V, et al. Genomewide linkage study in 1,176 affected sister pair families identifies a significant susceptibility locus for endometriosis on chromosome 10q26. *Am J Human Genet.* 2005;77(3):365-76.

Cite this article as: Ninama S, Rami BD. A prospective study of endometriosis and its outcome at tertiary care centre. *Int J Reprod Contracept Obstet Gynecol* 2019;8:4847-51.