

Endometriosis: Frequency and Correlation between Symptomatology and Disease Stage

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ASBTRACT

Aim: To determine the frequency of endometriosis in patients with general gynecological and infertile women presenting to hospital and to correlate symptomatology and stage of disease.

Design: Cross-sectional study.

Place and Duration of Study: Department of Obstetrics and Gynecology Services Hospital, Lahore from March, 2012 to July, 2014.

Methods: Fifty-two patients with diagnosis of endometriosis on laparoscopy were included in the study. The degree of symptoms was graded according to 1-4 points verbal rating scale designed by Biberoglu and Behrman. Endometriosis was staged according to Revised American Fertility Society (R-AFS) scoring on laparoscopy. Correlation coefficient – Spearman rank order correlation test was applied to analyze data.

Results: The frequency of endometriosis in infertile women was 33(24%) and in women with general gynecological complaints, it was 19(23%). There was a significant positive correlation between chronic pelvic pain and R-AFS scoring. Increasing severity of pelvic pain was positively correlated with presence of endometrioma and complete obliteration of pouch of Douglas. No correlation between dysmenorrhoea and R-AFS could be detected. Dysmenorrhoea was strongly and positively correlated with the presence of superficial implants. Dyspareunia was found to have positive correlation with R-AFS score and also with complete obliteration of pouch Douglas.

Conclusion: The frequency of endometriosis in infertile women was 33(24%) and in women with general gynecological complaints, it was 23% (19). Chronic pelvic pain and dyspareunia had strong positive correlation with R-AFS score while dysmenorrhoea had no such correlation.

Keywords: Endometriosis, symptomatology, dysmenorrhoea

INTRODUCTION

Endometriosis is a common gynecological condition among women of reproductive age that results in an array of problems including pelvic pain, dysmenorrhoea, dyspareunia and subfertility. It affects approximately 15% of women of child bearing age and in women with subfertility, ranges from 20-30%. Incidence peaks at about 40. The severity of symptoms and the probability of diagnosis by laparoscopy, neither the incidence nor the prevalence of endometriosis is known. Attempts to determine the epidemiology of endometriosis have been hampered by inability to assess large, random population-based samples of women by laparoscopy in this part of the world.

Endometriosis is staged according to Revised American Fertility Society (AFS) scoring, which often does not reflect the nature of extent of the disease. Extensive superficial endometriosis and deep invasive peritoneal nodules may constitute advanced disease and yet have an R-AFS score of only mild disease. Deep peritoneal and ovarian endometriosis

can cause severe discomfort and alter the patient's quality of life. The R-AFS scoring classification has been primarily designed for infertility and appears to be a poor predictor of pain. It has been suggested that the severity of symptoms is related to the depth of infiltration of endometriosis, sites of different lesions, and total volume of endometriotic lesions, which is not accounted for in the current classification. A scoring system inclusive of all these factors would be more helpful in the management of patients.

The aim of this study was to determine the frequency of endometriosis in infertile women and in women with general gynecological complaints; and correlate pain with R-AFS scoring as well as with the presence of endometrioma, deep infiltrating lesions in pouch of Douglas and superficial lesions.

PATIENTS AND METHODS

Over a period of about two years, from 2012 – 2014 cross – sectional study based non probability convenient sampling technique was conducted at the Department of Gynecology and Obstetrics, Services Hospital, Lahore

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Two hundred and ten patients, who underwent laparoscopy and had symptoms suggestive of endometriosis, were included in the study and women with other associated pelvic pathology like pelvic inflammatory disease and adhesions due to previous surgery were excluded. Fifty patients, who were diagnosed as case of endometriosis, were further evaluated.

After informed consent, the data obtained verbally from each patient was recorded in identical predesigned proformas. Initial assessment was carried out by taking a detailed history and clinical examination with stress upon type of subfertility, menstrual and coital history, type and duration of pelvic pain and its association with menstrual cycles. The women were asked about the severity of their pain symptoms and we graded the symptoms according to 1-4 verbal rating scale devised by Biberoglu and Behrman. Each of the symptoms was scored according to severity, where 1 represents the least severe or none, and 4 represents the most severe state i.e. incapacitation or requiring strong analgesics. All subjects had a pre-operative general and systemic examination followed by bimanual pelvic examination. The initial investigations comprised of baseline pre-operative investigations, cervical smear, ultrasound and CA-125 in some patients as explained later.

Laparoscopy was carried out using 30 degree Olympus Laparoscope. Endometriosis was staged into state 1-4 according to R-AFS scoring on laparoscopy, where minimal stage is classically seen as areas of discoloration (called implants or deposits) and more extensive disease comprises of scarring, formation of adhesions and cysts. Detailed findings were recorded on proformas. All collected data was analyzed, utilizing statistical programme for social sciences (SPSS-Version 10). Correlation Coefficient-Spearman Rank-order correlation in test was applied to analyze data.

RESULTS

Total number of laparoscopies done in two-year period was 210 and the major indication was infertility 141(67%). Thirty (14%) were done for chronic pelvic pain and 19(9%) for ovarian cyst and rest of the indicators were primary / secondary amenorrhoea, dysmenorrhoea etc. The frequency of endometriosis in subfertile women was 24% (n =33) and in women with general gynecological complaints, it was 19(23%). Maximum number of patients belonged to the age group of 27 to 32 years (60%). Only 18% of the patients having endometriosis were below 26 years of age. Most of the women were not well-educated and 58% had education below tenth grade. About 82% were housewives. The frequency of

endometriosis was almost same in lower and upper class i.e., 50% each. Twenty-five patients with endometriosis had primary infertility, 8 patients had secondary infertility and 17 patients had no history of infertility. In patients with infertility 64% had history of infertility of more than 7 years. Most of the patients had regular menstrual cycles, however, premenstrual spotting was the commonest complaint among patients with irregular cycles. Forty-eight percent had no positive finding on clinical examination.

CA-125 level were done in 27 patients only due to non affordability, out of whom, 60% of patients had values more than 35 iu/ml. Out of this 60%, 44% had levels between 35-100 iu/ml and only 16% more than 100 iu/ml. Ultrasound examination was carried out for all the patients. Ovarian cyst was seen in 19 patients, while fibroid uterus was detected in 14 patients and 38% had no finding on ultrasound. When R-AFS scoring was done, 13 patients had minimal and 7 had mild disease. 16 and 14 patients had moderate and severe disease respectively.

Eighty percent of patients had no or mild dysmenorrhoea and superficial implants were also absent in 54% of cases. When correlation test was applied, a significant positive correlation (0.47, $p=0.001$) was seen between superficial implants and dysmenorrhoea, while on the other hand R-AFS score was found to be low in patients with moderate to severe dysmenorrhoea and so no correlation was found between the two variables. Spearman's correlation coefficient was negative (-0.012, $p=0.934$) which meant that patients with moderate to severe dysmenorrhoea did not have statistically significant correlation with severe stage of disease (Table I).

Table 1: Correlation of dysmenorrhoea, dyspareunia and pelvic pain with Revised American Fertility Society scoring.

Dysmenorrhoea	Minima 1-1	Mild- 2	Moderate- 3	Severe -4
Not present (21)	7	1	9	4
Mild(19)	5	1	6	7
Moderate (4)	3	0	0	1
Severe (6)	1	2	1	2
Dyepareunia				
Not present (24)	1	2	5	7
Mild(5)	2	0	1	2
Moderate (18)	4	2	8	4
Severe (3)	1	0	2	0
Pelvic pain				
Not present (22)	6	4	8	4
Mild(6)	4	0	1	1
Moderate (14)	5	0	6	3
Severe (8)	1	0	1	6

Spearman's Correlation coefficient for Dysmenorrhoea was -0.012,, p -value 0.934

Spearman's Correlation coefficient fro Dyspareunia was 0.099, p -value 0.493

Spearman's Correlation for Pelvic pain was 0.612, p -value 0.000

Sever and moderate pelvic pain proportionately increase with increasing severity of R-AFS score, 40% of patients with moderate to severe pelvic pain had moderate to severe stage of disease and only 8% with moderate to severe pelvic pain had stage 1-2. A strong positive correlation (0.612, p=0.000) is seen between R-AFS score and chronic pelvic pain.

A strong positive correlation was seen between the presence of endometrioma and severe pelvic pain, 28% of patients with severe pelvic pain had presence of endometrioma and on the other hand, 26% of patients with no pelvic pain had no endometrioma. Only severe pelvic pain had positive correlation with complete obliteration of pouch of Douglas, while lower intensities of pelvic pain had no such association (Table II).

Table II: Correlation between pelvic pain and obliteration of pouch of Douglas

Pelvic pain	Not present 1	Partial 2	Complete 3
Not present (22)	16	5	1
Mild(6)	4	2	0
Moderate (14)	11	2	1
Severe (8)	1	3	4

Spearman's Correlation coefficient for pelvic pain and obliteration of pouch of Douglas 0.375, p value 0.007.

Although the absence of dyspareunia was a strong predictor for non involvement of pouch of Douglas, slight positive correlation was seen between obliteration of pouch of Douglas and dyspareunia as well as between R-AFS score and dyspareunia (0.099, p 0.493).

DISCUSSION

Endometriosis is an crippling and progressive disease, which is usually detected during infertility work up because it adversely affects the reproductive potential of predisposed women. Reported prevalence has varied widely within and between different populations and according to the indications for laparoscopy.

True prevalence of endometriosis in general population and in infertile population remains undetermined because endoscopic visualization of the pelvic cannot be performed on large, random, population based samples of women. We assessed prospectively the frequency of endometriosis in 210 consecutive diagnostic laparoscopies in our department. The frequency of endometriosis in infertile women was 33(24%) and in women with general gynecological complaints it was found to be 17(23%). The frequency in infertile women is

comparable to that reported in European literature which is about 20 to 30%. In patients with general gynecological complaints, the frequency is slightly higher 22% as quoted by other workers, while in two local hospitals based studies, the frequency was 10% and 34% respectively. It is also higher because less number of laparoscopies were done for patients with general gynecological complaints.

Age is the only socio-demographic risk factor consistently reported for endometriosis. In our study, the frequency of endometriosis was greatest between 27 to 32 years age group and mean age for the peak incidence 10 years younger than that reported in other studies. In 64% of infertile patients the history of infertility was more than 7 years, which is strong factor associated with high incidence of endometriosis.

Most of the women were housewives, belonging to middle socioeconomic strata to average social class and were not well-educated. This is in contrast to that reported in literature. The hospital where study took place is a tertiary level government based hospital so most of the women attending our clinics belonged to lower socioeconomic group class of society. The menstrual cycle of women later on diagnosed as having endometriosis was regular in 88.9% of women and premenstrual spotting was the common complaint in patients with irregular cycles. This symptom is thought to be poorly recognized but consistent sign of endometriosis.

The findings on clinical examination were normal in 48% of cases, which is also expected in most cases of endometriosis as mentioned in different studies. Due to financial concerns serum levels of CA-125, which is an expensive test, could be carried out in only 60% of the patients and out of these, about 44% had values between 35 to 100 iu / ml and only 16% had more than 100 iu/ml, suggesting it to be an important predictive factor for diagnosis of endometriosis. On ultrasound, ovarian cyst was seen in 38% of patients uterus was enlarged in 2% and fibroid uterus was present in 14% of cases. Both ultrasound and MRI are accurate in the diagnosis of endometriosis. There are no significant differences in staging of pelvic endometriosis between ultrasound and MRI.

Laparoscopy is the gold standard for diagnosis of endometriosis but the symptoms and laparoscopic appearance do not always correlate. There is controversy surrounding the accuracy and reproducibility of visual diagnosis was confirmed by histology and only 54% of the excised lesions revealed endometriotic tissue. These results confirm the need of histological confirmation to obtain a diagnosis of endometriosis. However, the clinical impact of such findings remains a matter of debate.

Combination of white light illumination and auto fluorescence is significantly superior to white light illumination alone in detecting non pigmented endometriosis lesions but for this purpose special equipment is required.

The other main objective of this study was to determine co-relation between symptomatology and R-AFS score in patients with endometriosis. It was found that dysmenorrhoea was strongly co-related with the presence of superficial implants. On the other hand, there was no co-relation between severity of dysmenorrhoea and severe stage of disease and this data concurs with the work conducted by other researchers.

Pelvic pain also showed positive co-relation with the presence of endometrioma and complete obliteration of pouch of Douglas. It was seen that 28% of patients with severe pelvic pain had presence of endometrioma and on the other hand, 26% of patients with no pelvic pain had no endometrioma which is in accordance with other studies. Chronic pelvic pain has a strong positive co-relation with stage of disease, as proved by our study. These findings are in concert with the previous studies in which they find a significant co-relation between pelvic pain and R-AFS score was found. However, there are also studies which did not find any co-relation with symptoms and stage of disease. Dyspareunia was also found to be positively related with complete obliteration of pouch of Douglas and R-AFS score previously proved by one study.

The R-AFS score is primarily a staging instrument for infertility and it does not take into consideration the presence of extensive superficial disease, endometrioma and type and depth of lesions. This may be the reason that many studies have found conflicting results on co-relation between symptoms and stages of disease.

All patients attending outpatient clinics with the complaint of chronic pelvic pain should have complete evaluation including laparoscopy to exclude endometriosis at an early stage. CA-125 measurements should also be done in patients with long – standing history of infertility and chronic pelvic pain as it is a relatively inexpensive test which could identify sub-group of patients who are more likely to benefit from early laparoscopy.

Further prospective studies should be carried out in large centers to provide a large clinical base and careful and consistent use of the recommendations of the American Society of Reproductive Medicine Classification of endometriosis may play an important role in the management of endometriosis.

CONCLUSION

Frequency of endometriosis in infertile women was 24% (33) and in women with general gynecological complaints, it was 23%. Dysmenorrhoea had strong positive co-relation with superficial implants but no co-relation with R-AFS score, whereas Pelvic pain had strong positive co-relation with presence of endometrioma, complete obliteration of pouch of Douglas and R-AFS score. Dyspareunia had significant co-relation with R-AFS score but only slight positive co-relation with complete obliteration of pouch of Douglas.

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