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Endometriosis in Infertile Women at Ramathibodi Hospital

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ABSTRACT

Objective To study the clinical characteristics of infertile women with endometriosis.

Design Retrospective descriptive

Setting Infertility clinic , Department of Obstetrics and Gynaecology, Faculty of Medicine, Ramathibodi Hospital

Subjects From 1993 to 1997, 56 infertile women were diagnosed with endometriosis, 45 cases (80.36%) by laparoscopy and 11 cases (19.64%) by laparotomy. The indications for diagnostic procedures were clinically suspected endometriosis and unexplained infertility.

Results The majority of infertile women with endometriosis were nulliparous (60.71%). The mean age at initial diagnosis was 32.55 + 3.99 years. Forty-eight women (85.71%) had dysmenorrhea mostly in a mild form (41.07%), and twenty women (35.71%) had dyspareunia. According to the stage of endometriosis, 19 cases (33.93%) were minimal, 22 cases (39.29%) were mild, and 15 cases (26.78%) were moderate to severe. The common sites for endometriotic lesion were the ovaries (57.14%) followed by the tubes (53.57%).

Conclusion The majority of infertile women with endometriosis were nulliparous with dysmenorrhea and dyspareunia. The endometriotic lesions at the ovaries and tubes were usually minimal and mild. Laparoscopy should be used to evaluate the clinically suspected endometriosis and unexplained infertility in the infertile women.

Key words : endometriosis, infertility

Endometriosis is an enigmatic disease, which at present can only be diagnosed through surgical mean either by laparoscopy or laparotomy. The symptoms of endometriosis, although characteristics, are extremely variable and not related to the stage of the disease.[1] The association between the occurrence of endometriosis and infertility has long been recognized. The etiology of infertility in endometriosis has been extensively researched. This relationship is obvious in women with severe endometriosis as the resultant of structural damage; ovarian and tubal adhesions prevent oocyte release, retrieval and transport leading to a mechanical disruption infertility. But in women with mild endometriosis and no apparent structural

damage the etiological basis for the infertility is unclear. Numerous factors have been investigated to explain how mild endometriosis could affect fertility. These factors include defective folliculogenesis, anovulation, hyperprolactinemia, luteinized unruptured follicle syndrome and luteal phase defects.[2,3] Other factors thought to lead to infertility in mild endometriosis include an autoimmune response resulting in implantation failure, alterations in the peritoneal fluid with inflammatory changes and an increased spontaneous abortion rate.[4-6] There are many studies evaluated the incidence of endometriosis, demographic and epidemiology, risk factors for the development of the disease, constitutional factors and menstrual characteristics associated with the disease, as well as familial and genetic factors.[7-10]

The objective of our study was to evaluate the clinical characteristics of infertile women with surgical diagnosis of endometriosis in the infertility clinic. For this purpose, we analyzed medical and infertility records of infertile women at the infertility clinic in Ramathibodi Hospital.

Materials and Methods

From 1993 to 1997, infertile women attending the infertility clinic of the Department of Obstetrics and Gynaecology, Ramathibodi Hospital for evaluation of infertility were included in the study. All of the women had a history of infertility more than 1 year and prospectively were subjected to our standard infertility evaluation, which included standard interview, physical and pelvic examinations, basic laboratory examinations, endometrial biopsy, CO_2 insufflation or hysterosalpingography and pelvic sonography before invasive investigation. Fifty-six infertile women who proceeded to diagnostic laparoscopy or laparotomy with clinically suspected endometriosis or unexplained infertility were diagnosed endometriosis. Their medical, menstrual and reproductive histories, as well as demographic and epidemiologic data were collected from medical and infertility records. Dysmenorrhea was recorded as none, mild, moderate, or severe. Mild, if there was minimal interferance with normal activities and usually no medication was required; moderate, if there was noticeable interference and mild analgesics were usually required; severe, if the women were unable to function normally and required strong analgesia and bed rest. Dyspareunia was recorded as present or absent. Stage of endometriosis and site of endometriotic lesions at the time of initial diagnosis were available on these women based on the review of operative reports according to the revised American Society for Reproductive Medicine classification.[11] Modes and results of treatment in each stage of endometriosis, including pregnancy outcome were recorded.

Results

From 67 cases of clinically suspected endometriosis and unexplained infertility, fifty-six women were diagnosed endometriosis, 45 cases (80.36%) by laparoscopy, and 11 cases (19.64%) by laparotomy. Thirty-four cases (60.71%) had primary infertility and 22 (39.29%) were pregnant previously. Eight of the twenty-two (36.36%) had spontaneous abortions, 8 (36.36%) had term pregnancies and 6 (27.28%) had induced abortions. The demographic data, menstrual characteristics, and infertility time are demonstrated in Table 1. Among the infertile women with endometriosis, 23% also had a male factor and 41% had a tubal factor.

Table 2 shows that 85.71% of women had dysmenorrhea, mostly mild (41.07%) and moderate (25 %). Twenty cases (35.71%) had the symptom of dyspareunia.

The stage of endometriosis according to the revised ASRM classification at the time of the initial diagnosis by laparoscopy or laparotomy was as follow: nineteen cases (33.93%) were minimal, 22 cases (39.29%) were mild, 10 cases (17.85%) were moderate, and 5 cases (8.93%) were severe. The most common site for endometriotic lesions was the ovaries (57.14%) followed by the tubes (53.57%), cul-de-sac (39.29%), uterus (32.14%), pelvic wall (19.64%), uterosacral ligaments (14.29%), and broad ligaments (3.57%). In many cases there was lesion in more than

one site.

About pregnancy outcome, 5 out of 41 cases (12%) of minimal and mild endometriosis group became pregnant, 2 cases after surgical treatment, 2 cases after medical treatment, and one case with no treatment. In the moderate endometriosis group , there were 2 pregnancies (20%) occurred after medical treatment. No pregnancy occurred in the severe endometriosis group.

Table 1. Characteristics of infertile women with endometriosis

Characteristics	mean ± SD
Age at initial diagnosis (years)	32.55 ± 3.99
BMI (kg/m2)	21.50 ± 3.04
Age at menarche (years)	13.96 ± 1.64
Interval of menstruation (days)	29.84 ± 5.24
Duration of menstruation (days)	4.32 ± 1.44
Duration of infertility (years)	5.79 ± 3.07

Table 2. Symptoms of dysmenorrhea

Dysmenorrhea	Numbers	Percentage
none	8	14.29
mild	23	41.07
moderate	14	25.00
severe	11	19.64
Total	**56**	**100.00**

Discussion

The reported prevalence rates of endometriosis in infertility range from 4.5% to 33% depending on the specific subset of population analysed : infertile women, symptomatic patients, women undergoing tubal sterilization, pelvic surgery (either abdominal or vaginal), or general population.[7,12] But it has been considered high among infertility group. Selection is probably the major potential bias in studies of endometriosis, infertility is often the reason for diagnostic procedures, thus artificial raising the frequency of infertile women among the cases. This study is not the final answer to the question of prevalence of endometriosis in infertility. It contains certain limitations that should be addressed. First, because the diagnosis of endometriosis must be confirmed by directed visualization, usually at laparoscopy or laparotomy, but some infertile women did not accept such surgical procedures. Therefore the investigation is limited to the ones that were clinically diagnosed endometriosis or unexplained infertility. Second, some cases of endometriosis could be missed to be clinically probable or possible endometriosis and treated by experienced physician without histological or visual confirmation.

Among the 56 instances of endometriosis in our infertile women, the infertility was primary in 34 (60.71%). It is relatively low according to previous studies which found that the infertility was primary in 71% and 76%.[8,13] However, it confirmed that the

majority of infertile women with endometriosis were nulliparous as in other studies.[8,9,13] Among secondary infertility group in our study, we found that spontaneous abortion occurred in 8 cases (36.36%) which were higher than normal population as reported in uncontrolled retrospective study.[6] In agreement with the prior report,[10] the mean age of initial diagnosis was 32.55 + 3.99 years. The reason may be that the majority of women with endometriosis and infertility had either mild or no pelvic pain symptoms, so the diagnosis was performed only as a part of infertility evaluation which was rather late.

Although endometriosis is usually considered to be associated with early menarche, frequent menstruations, and long duration of menstruation,[7,9,14,15] our data showed that infertile women with endometriosis had normal menstrual characteristics. This might be due to the number of our sample size.

Interestingly, we observed that the duration of infertility in our study was rather long, with mean time of 5.79 ± 3.07 years. It may be due to the reasons that the frequency of deep dyspareunia and the severity of dysmenorrhea were less in our infertile women, therefore,the treatment was delayed. Second, our institute is the referral center which may be the cause of delayed diagnosis after trial of treatment from another hospitals.

About the pelvic symptoms in our infertile women, dysmenorrhea had occured as high as 85.71%, but were mostly mild. Moreover, we found that the reported frequency of dyspareunia in infertile women with endometriosis was 35.71% which were higher than one study.[10] From this data we can conclude that endometriosis should be suspected in women with subfertility or infertility with pelvic symptoms ie. dysmenorrhea, dyspareunia, or chronic pelvic pain.

About the stage of endometriosis among our infertile women, it had been reported to be minimal or mild in 73.22%, and is consistent with the previous report,[7] but higher than several reports among infertile women with endometriosis which found minimal or mild endometriosis in only 52% and 55%.[8,10] On the other hand, in symptomatic women with endometriosis, the severity of disease is in higher stage than in the infertile group.[1]

The most common site of endometriosis in our study was the ovaries. The second common was the tubes. It is similar to the previous report.[2] This observation has confirmed the notice that the frequency and severity of deep dyspareunia and dysmenorrhea was less in the women with ovarian endometriosis than in those with lesions at other sites. Unlike other study which found that endometriotic lesions were most frequently found in the cul-de-sac and peritoneum.[8] This may be explained by the differrence in study population and severity of endometriosis in fertile women.

Currently, the treatment of infertility in conjunction with endometriosis can be achieved through different methods: medical treatment, surgical treatment and assisted reproductive technology (ART). The choice of treatment for infertile women with endometriosis has been both controversial and complex, largely because of lack of data. The use of revised American Society for Reproductive Medicine classification has limited the overall effectiveness to predict pregnancy.[16] This study found that there was only 5 pregnancies occured among minimal and mild endometriosis group and 2 among moderate group. Our study showed that pregnancy rate to be low because the follow up time was short and some women were lost to follow up after the diagnostic procedures. In addition, there were some infertile women with endometriosis who were also ongoing medical treatment.

In conclusions, the majority of infertile women with endometriosis were nulliparous, had symptoms of dysmennorrhea and dyspareunia. The endometriotic lesions which located at the ovaries and tubes were usually minimal and mild. Laparoscopy should be used to evaluated the clinically diagnosed endometriosis, unexplained infertility, and infertile women with infertility time more than five years.

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