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ORIGINAL ARTICLE

Frequency of Endometriosis in Women Undergoing Diagnostic Laparoscopy for Subfertility at Sheikh Zayed Hospital Rahim Yar Khan

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ABSTRACT

Aim: To determine the frequency of endometriosis in women undergoing diagnostic laparoscopy for subfertility.
Methods: This cross-sectional study was carried out from 25th February 2019 to 23rd June 2019 at the Department of Obstetrics & Gynaecology, Shaikh Zayed Hospital, Rahim Yar Khan. The sample included 136 patients with subfertility. Patients with diabetes mellitus and hypertension, patients with history of heart diseases and malignancies like breast cancer and brain tumor and severely anemic ladies were excluded. Routine investigations were done.
Results: Age range in this study was from 20 to 35 years with mean age of 29.522±1.99 years, mean duration of subfertility 5.058±1.58 years, mean duration of marriage 7.058±1.58 years, mean weight 62.463±6.01 Kg, mean height 1.587±0.07 meters and mean BMI was 24.951±3.45 Kg/m2. 14.7% patients belonged to 20-27 years age group while 85.3% to 28-35 years age group. Endometriosis was seen in 15.4% patients.
Conclusion: The couple presenting with unexplained subfertility should be offered diagnostic laparoscopy as endometriosis is a common finding in subfertility even in asymptomatic patients and may adversely affect the fertility rate.
Keywords: Subfertility, Diagnostic laparoscopy, Endometrioses

INTRODUCTION

Endometriosis is an estrogen dependent chronic inflammatory disease in women of fertile age group. It is defined as the presence of endometrium-like tissue outside the uterine cavity[1]. There is wide variation in quoted prevalence of endometriosis in literature with an estimate of 2-18% in general population and around 50% in women presenting with subfertility[22,3,4]. The exact cause of endometriosis is still unclear but it is said to be multifactorial with genetic and environmental predisposition. The women with shorter menstrual cycles with longer duration of bleeding days are at more risk[5,6]. Endocrine-disrupting chemicals and alcohol intake are other implicating factors[7]. The pathogenesis of the disease is unclarified to date and various theories are seen in literature. Sampson's theory of retrograde menstruation can be explained in women with increased number of days of menstrual bleeding[8]. Other proposed theories are coelomic metaplasia, lymphatic and hematogenes spread and transformation of extra-uterine stem cells into endometrial tissue[8]. The main symptoms of the disease are sterility, severe dysmenorrhea and chronic pelvic pain. Other symptoms are dyspareunia, pain at urination and defecation[9].

A detailed history with suggestive symptoms and physical examination, including speculum and bimanual examination, are helpful in the diagnosis. But routine clinical examination may not be very helpful in deep infiltrating endometriosis[10]. Symptoms inquiry, clinical examination and noninvasive diagnostic tool in the form of ultrasound and MRI are reliable in diagnosing ovarian endometrioma more accurately than non-ovarian endometriosis[11]. Laparoscopy and directed biopsy for histopathological confirmation is the gold standard in intraabdominal lesions of small size that are difficult to visualize on ultrasound[12].

At laparoscopy, endometriosis may be visualized as white, yellow, brown or powder-burn black to non-pigmented lesions seen in the pelvis. It may be seen as few lesions to deeply infiltrated obliterating the pouch of douglas and involving adhesions[13].

Laparoscopy may aid in the management plan in patients with unexplained subfertility with normal hystersalpingographic (HSG) findings. In one study frequency of endometriosis was found to be 63 % in women undergoing laparoscopy for unexplained subfertility and normal HSG report[14].

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While in another study, Fatnassi R et al have shown that frequency of endometrioses was 6% in women undergoing diagnostic laparoscopy for subfertility[15].

Studies done in Pakistan showed laparoscopic diagnosis of endometriosis among women presenting with subfertility ranging from16.8-55%[16,17] .

Laparoscopy is considered as gold standard to know the tubal status and also provides information about uterine, ovarian and pelvic pathology. The role of diagnostic laparoscopy for patients with unexplained primary subfertility with normal test of tubal patency is still under debate. Previous studies depicted variability in results in different populations, as mentioned above [14, 15.] Even in our local population there is variability in results [16, 17]in women undergoing diagnostic laparoscopy for primary subfertility. Therefore, these results cannot be generalized on all populations. This prompted me to determine the frequency of endometriosis in women undergoing diagnostic laparoscopy for primary subfertility in our general population. This study would help in determining the role of diagnostic laparoscopy for suspected endometriosis in sub fertile women in our general population and pave the way for further research in this topic.

METHODS

This cross-sectional study was conducted during 25th February 2019 to 23rd June 2019 at Department of Obstetrics & Gynaecology, Shaikh Zayed Hospital, Rahim Yar Khan after permission from ethical committee. A total of 136 women of age 20–35 years with subfertility (defined as failure to achieve a pregnancy after 12 months of regular unprotected sexual intercourse) more than two years and normal semen parameters of spouse were enrolled in this study. All the patients having history of pelvic surgery, tubal occlusion, and ovulatory dysfunction or having polycystic ovarian syndrome were excluded. Permission was taken from Institutional Ethical Committee to conduct this study. Informed consent was taken from each patient. Baseline demographic information of patients (age, weight, height and BMI) and duration of subfertility were recorded in a proforma specifically designed for the study. At the start of the operation, the bladder was catheterized. A veress needle was then inserted inside the umbilicus and the abdomen was filled with carbon dioxide gas at a rate of 1-6 liter/min, to a pressure of 14–20 mmHg. The gas flow was carefully monitored throughout with flow meters. Two other

incisions (approx. 1cm) was made, one just inside the umbilicus and one on the bikini line for an instrument to assist with visualizing the organs. A careful inspection was made of the uterus and all surrounding areas and endometriosis was evaluated and recorded (yes/no) in the proforma. Laparoscopic procedure was performed by consultant gynecologist well versed with laparoscopic technique.

Descriptive statistics was applied to calculate mean and standard deviation for age, duration of subfertility, duration of marriage, weight, height and BMI. Frequencies and percentages were calculated for qualitative variables like endometriosis. Effect modifiers like age, duration of subfertility, duration of marriage and BMI was controlled by stratification. Post stratification chi square test was applied taking p ≤0.05 as level of significance.

RESULTS

Age range in this study was from 20 to 35 years with mean age of 29.522±1.99 years, mean duration of subfertility 5.058±1.58 years, mean duration of marriage 7.058±1.58 years, mean weight 62.463±6.01 Kg, mean height 1.587±0.07 meters and mean BMI was 24.951±3.45 Kg/m^2 as shown in Table-I. 14.7% patients belonged to 20–27 years age group while 85.3% to 28–35 years age group as shown in Table-II. Endometriosis was seen in 15.4% patients as shown in Table-III. Stratification of endometriosis with respect to age, duration of subfertility, duration of marriage and BMI are shown in Table-IV. V, VI and VII respectively.

Table I: Descriptive statistics of women with subfertility

Demographics	Mean	±S.D.
Age (years)	29.522	1.99
Duration of subfertility (years)	5.058	1.58
Duration of marriage (years)	7.058	1.58
Weight (Kg)	62.463	6.01
Height (m)	1.587	0.07
BMI (Kg/m2)	24.951	3.45

Table II: Age distribution of women with subfertility

Age (years)	n	%age
20 – 27	20	14.7
28– 35	116	85.3
Total	136	100

Table III: Frequency of endometriosis in sub fertile women having diagnostic laparoscopy

Endometriosis	n	%age
Yes	21	15.4
No	115	84.6
Total	136	100

Table IV: Age distribution of sub fertile women with respect to outcome

Age (years)	No. with Endo-metriosis	No. with no Endo-metriosis
20 – 27	2	18
28 – 35	19	97
Total	21	115

Table V: Distribution of patients in relation to duration of subfertility with respect to outcome

Duration of subfertility (years)	No. with Endo-metriosis	No. with no Endo-metriosis
2 – 5	17	73
> 5	4	42
Total	21	115

P value: 0.119

Table VI: Distribution of patients in relation to duration of marriage with respect to outcome

Duration of Marriage (years)	No. with Endo-metriosis	No. with no Endo-metriosis
3 – 5	2	24
> 5	19	91
Total	21	115

P value: 0.254

Table VII: BMI distribution of patients with subfertility with respect to outcome

BMI(Kg/m^2)	No. with Endo-metriosis	No. with no Endo-metriosis
≤ 25	1	75
> 25	20	40
Total	21	115

P value: <0.0001

DISCUSSION

Endometriosis is a challenging clinical situation due to its diverse presentation, high cost diagnostic investigations and difficult management. The diagnosis of endometriosis is difficult because its symptomatology cross over with other diseases and some patients overlook symptoms considering it exaggeration of menstrual pain[18]. Due to this reason the diagnosis can be substantially delayed that may result in negative impact on social, sexual and reproductive life of the patient[19,20]. The exact prevalence of endometriosis is difficult to declare as it is unethical to subject asymptomatic women to a surgical procedure.

In our study we found laparoscopic diagnosis of endometriosis in infertile patient as 15.4% which is similar with findings of various other studies done globally. Our finding is very much similar to the findings of Nousheena Akhter Shabir et al who reported 13.53% rate of endometriosis in infertile ladies[21]. Another study showed the incidence of the same as 15% in patients with unexplained primary subfertility[22]. A study done on Indian population reported the incidence of endometriosis to be 14%[23].
High prevalence of endometriosis in infertile women has been reported by Meuleman C et al (47%), Vineet V. Mishra et al (54.98%), Valson H et al (73.3%), Mishra VV et al (48.38%) and Fawole et al (48.1%)[4,13,24, 25,26]. Whereas Chowdhury TS et al have reported the frequencies of endometriosis as 31% in infertile women[27].

Low prevalence of endometriosis has been reported by Ikechebelu JI (4.9%)[28].Parveen & Khanam (2010) reported as 8%[29]. In most studies endometriosis was found to be in stage I disease[28,16].

In our study majority of patients with endometriosis were between ages 28-35 with mean age as 29.522±1.99 years. Similar age of presentation was found in another study done in Pakistan[16]. In most studies the peak age of prevalence was 25-35 years[9,28].

An association between presence of endometriosis and a low body mass index (BMI) is shown in many studies[30]. A recent study declared no association between BMI and endometriosis, however obese women had more incidence of endometriosis[31]. In our study 21 patients had laparoscopic evidence of endometriosis. Out those 20 patients had BMI >25kg/m^2.

In the current study duration of subfertility was found to be between 2-5 years. Mean Duration of subfertility was found to be 10 years with duration of symptomatology as 6 months[16]. Endometriosis can exist in asymptomatic patients. However a diagnostic delay of upto 8 years has been shown in literature[32]. Endometriosis can adversely affect the quality of life of the sufferers as delay in diagnosis and treatment can lead to stress, anxiety, depression, poor sexual relationship and decreased chances of fertility[33].Despite of having extensive research in this field still the definitive reason for subfertility in endometriosis is unknown and several mechanisms are proposed that include distorted pelvic anatomy, decreased coital frequency, altered peritoneal environment and tubal dysfunction[34].

CONCLUSION

In conclusion, the couple presenting with unexplained subfertility should be offered diagnostic laparoscopy as endometriosis is a common finding in subfertility even in asymptomatic patients and may adversely affect the fertility rate.

Conflict of interest: Nil

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