The Professional Medical Journal
www.theprofesional.com

ORIGINAL PROF-0-2806

DOI: 10.29309/TPMJ/2019.26.05.2806

ENDOMETRIOSIS;

PREVALENCE OF ENDOMETRIOSIS ON LAPAROSCOPY IN SUBFERTILE WOMEN.

Shahid Irshad Rao[1], Shazia Siddiq[2], Saima Yasmin Qadir[3], Zahid Sarfraz[4], Maryam Rana[5]

1. FCPS Obs & Gynae
   Professor
   NMU, Multan.
2. FCPS Obs & Gynae
   Assistant Professor
   NMU, Multan.
3. FCPS Obs & Gynae
   Senior Registrar
   NMU, Multan.
4. FCPS Obs & Gynae
   Senior Registrar
   NMU, Multan.
5. FCPS Obs & Gynae
   Women Medical Officer
   NMU, Multan.

Correspondence Address:
Dr. Saima Yasmin Qadir
NMU, Multan.

Article received on:
22/12/2018
Accepted for publication:
25/02/2019
Received after proof reading:
18/04/2019

ABSTRACT: Objectives: To determine the frequency and staging of endometriosis in women undergoing diagnostic laparoscopy for subfertility. **Study Design:** Prospective observational study. **Period:** 1st Jan 2017 to 31st Dec 2017 over a period of one year. **Setting:** Gynecology Department of Nishtar Medical University and Hospital Multan. **Methodology:** Over n=84 patients admitted for diagnostic laparoscopy for the workup of infertility. All the patients fulfilling inclusion criteria of undiagnosed primary and secondary subfertility in reproductive age group were included and excluded all those patients who had previously abdominal surgery the data was gathered and analyzed using SPSS-17. The results were shown in frequency and percentage tables. **Results:** The incidence of endometriosis was 20.2% (n=17) on diagnostic laparoscopy in patients with subfertility. The mean age of patient was 28.36±2.98 years. The mean duration of infertility was 4.89±1.17 years and only one patient had less than three years of infertility while n=16 patients had infertility duration was more than three years. The frequency of primary and secondary infertility was70.58% (n=12) and 29.41% (n=5) respectively. Most of the patients diagnosed with moderate to severe endometriosis. The incidence of stage 1, 2, 3, and 4 was respectively n=2 (11.76%), n=4 (23.52%), n=4(23.52%) and n=7(41.17%). **Conclusion:** Laparoscopy is the best diagnostic modality for the determination of endometriosis and its impact on future fertility. Efforts should be made to make availability of laparoscopy in all gynecological units in developing world so that endometriosis is properly diagnosed and timely treated.

Key words: Adhesions, Chocolate Cyst, Endometriosis, Infertility.

Article Citation: Rao SI, Siddiq S, Qadir SY, Sarfraz Z, Rana M. Endometriosis; prevalence of endometriosis on laparoscopy in subfertile women. Professional Med J 2019; 26(5):702-706. **DOI:** 10.29309/TPMJ/2019.26.05.2806

INTRODUCTION

Endometriosis is defined as the presence of endometrial glands and stroma outside the uterus, which induces a chronic inflammatory reaction, scaring and adhesions that distorts the female pelvic anatomy.[1] The diagnosis is strongly suspected from patient' s history. Infertility, dysmenorrhea and dyspareunia are the main complaints.[2] Although it is generally thought to be the cause of infertility but its impact on fecundity and its mechanism is still less clear. It is somewhat easy to understand how moderate to severe endometriosis is associated with infertility, as it is a destructive disorder that results in considerable pain and anatomical distortion of pelvic organs.[3] Yet it is less clear how minimal to mild endometriosis might impair fertility without distorting the pelvic anatomy, although number of theories exist.[4]

The incidence of endometriosis in women with primary complaint of infertility is 16.8% and frequency of its diagnosis on laparoscopy is 43.38%[5], in patients undergoing gynaecological surgery is 1%, teenagers undergoing diagnostic laparoscopy for chronic pelvic pain or dysmenorrhea is 50%.[6] Endometriosis accounts 25-50% of infertility.[6] Tsuji reported worldwide endometriosis up to 63%[7], it is relatively less common in Iran, Pakistan, India and Middle east.[8] The prevalence of endometriosis in general population is not yet very clear. Multiple births, late menarche and lactatational amenorrhea are protective while nulltiparity, early menarchy, late menopause, short menstrual cycle, prolonged menstruation and mullarian anomalies increase

its risk.[6] Hispanic and blacks have lower incidence than Caucasians and Asians population.[9,10] Genetic factors is predominantly important because if a women has endometriosis, her first degree relative has 7% more chance of developing endometriosis as compared with 1% in nonfamilial basis.[11]

Its pathogenesis is not well established and there are certain hypothesis like implantation theory where retrograde menstruation is a cause of endomeriosis in pelvis while outside pelvis is justified by dissemination of endometriotic cells through lymphatics and blood vessels and coelomic mataplasia justifies the endometriosis in pelvic and extra pelvic organs.

The diagnosis is strongly suspected on the basis of patient's history. The predominant symptoms are chronic pelvic pain, dysmenorrhea, dyspareunia, bowel and bladder symptoms, subfertility, chronic fatigue and low bachache.[12,13] Severe deep dyspareunia and painful defecation during mensturation are suggestive of deep and posteriorly infiltrating disease.[14] Examination might range from no signs to tenderness, enlarge adnexa and fixed retroverted uterus. Diagnosis is definitely done by direct visualization of implants and laparoscopy is considered to be the gold standard for pelvic endometriosis[15] however transvaginal ultrasound and MRI may be complementry.[16] During laparoscopy superficial powder burn or gunshot lesions, dark brown lesions and bluish nodules (endometrioma) are observed. The accuracy of laparoscopic diagnosis is dependant on site of endometriosis, operator s experience, severity of disease and biopsy with histological examination is equally important.[17,18] A number of classifications have been proposed but widely accepted is American Society for Reproductive Medicine (ASRM) published new classification by the name of revised classification of endometriosis in 1996. They proposed the system of point scoring based on size, depth, location of endometriosis and presence of adhesions, it helped a lot in predicting the success in achieving the pregnancy in assisted reproductive techniques.[7]

Ultrasound is useful in diagnosis of endometrioma of ovary, bladder and ureter.[8] CA-125 is often greater than 35 IU/ml and mean concentration in stage 1, 2 3 and 4 were 19, 40, 77& 182 IU/ml but it is not a sensitive and diagnostic indicator.[19,20]

METHODS & RESULTS

Overall 100 % (n=84) patients were enrolled in this descriptive observational study during 1st January 2017 to 31st December 2017 in Nishtar medical college and university. Nishtar medical university is affiliated with Nishtar hospital which is the largest hospital of South Punjab, hospital is emerging in the field of laparoscopy and minimal invasive surgery. We admitted the patients from outpatient department for diagnostic laparoscopy as workup of subfertility. Laparoscopy was performed under general anesthesia after proper consent and pre anesthetic evaluation. Informed consent obtained from all the patients and permission to conduct study was taken from hospital ethical committee. The data was gathered and analyzed using SPSS-17. The results were shown in frequency and percentage tables.

We enrolled n=84 patients and excluded all those patients who had previously abdominal surgery. There were 20.2% (n=17) patients who had endometriosis on laparoscopy and 79.8% (n=67) were found to be negative (Table-I). The mean age of patient was 28.36± 2.98 years (table 2). There were total 33 patients whose age was less than 35 years and endometriosis positive were 16 patients. While only one patient was endometriosis positive after the age of 35 years. (Table-III). The mean duration of infertility was 4.89±1.17 years (Table-II). Among seventeen patients (n=17) only one patient had less than 3 years of infertility while 16 patients had infertility duration was more than three years (Table-IV). The frequency of primary and secondary infertility was n=12 and n=5 respectively (Table-V). Total n=17, stage 1 n=2 (11.76%), n=4 had stage 2 (23.52%), n=4 had stage 3 (23.52%) while n=7 had stage 4 (41.17%) endometriosis (Table-VI). We used rASRM classification to describe the proper size and site of endometriosis along with adhesions and their impact over the other pelvic structures (Table-VII).

Endometriosis	Frequency	Percentage
Present	17	20.2
Absent	67	79.8
Total	84	100.0

Table-I. (n=84): Frequency of endometriosis

Variable	Means S.D
Age	28.36 ± 2.98years
Duration of Infertility	3.89 ± 1.17 years

Table-II. (n=84): Descriptive statistics

Stratification		Endometriosis		Total	P-Value
		Present	Absent		
Stratified Age	≤35 years	16	17	33	<0.05
	≥35 years	1	50	51	
Total		17	67	84	

Table-III. (n=84): Stratification of age with endometriosis (n=84)

Stratification		Endometriosis		Total	P-Value
		Present	Absent		
Stratified Duration	≤3 years	1	62	63	<0.05
	>3 years	16	5	21	
Total		17	67	84	

Table-IV. (n=17): Stratification of duration of infertility

Infertility	Frequency	Percentage
Primary Infertility	12	70.58%
Secondary Infertility	5	29.41%
Total	17	100%

Table-V. (n=17): Type of infertility

Severity of endometriosis	Frequency	Percentage
Stage 1	2	11.76%
Stage 2	4	23.52%
Stage 3	4	23.52%
Stage 4	7	41.17%

Table-VI. (n=17): Severity of endometriosis

Findings	Frequency	Percentage
Ovary		
Right Superficial	4	23.52%
Right Deep	8	47.05%
Left Superficial	1	5.8%
Left Deep	4	23.52%
Peritoneum		
Superficial	6	35.29%
Deep	11	64.70%
Adhesions		
Right Filmsy	3	17.64%
Left Filmsy	3	17.64%
Right Dense	7	41.17%
Left Dense	3	17.64%
Tubes		
Right Filmsy	3	17.64%
Right Dense	5	29.41%
left Filmsy	1	5.8%
Left Dense	8	47.05%
Cul-de-sac obliteration		
Partial	8	47.05%
Complete	9	52.94%

Table-VII. Description of laparoscopic findings

DISCUSSION

Laparoscopy has become the most important investigation tool for the evaluation of endometriosis. Endometriosis is considered to be the one the three major causes of infertility. The high incidence in developed countries is probably because of availability of diagnostic facilities. The prevalence of 4.7% to 4.9% reported by Hebbar and Chawla.[21] It was lower from 21% which is reported in developed countries. More recently, Fawole et al reported a prevalence of 48.1% from africa[22], Alabi et al reported 20% from Africa[2]. Khawaja et al observed16.8%[23], Mishra in 2015 reported 48.38%[5] and Mara reported its prevalence of 20.4%.[24] We found incidence of endometriosis 20.2% (n=17) among the patients with subfertility during diagnostic laparoscopy.

The mean age group in our study is 28.36 ±2.98years, Khawaja found 29 ±5.3years in Agha Khan University Hospiatl[23], and we observed that high incidence of endometriosis in less than 35 years and low prevalence after 35 years while Faruqhar et al supported that it is low prevalence in extreme of age groups.[25]

We observed endometriosis was more common in primary infertility (70.58% (n=12) vs 29.41% (n=5). Aliani observed that there was no statistically significant difference of prevalence of endometriosis among primary infertility, secondary infertility and fertile women (52.9%, 45% and 40.7%, respectively).[26] Joseph Ikechebelu observed that 66.6% were nulliparous.[16]

Most of the patients (n=11) had stage three and four, the patients (n=6) had stage 1 and 2.Joseph Ikechebelu found that more than half of the patients in his study were having endometrioma.[16] We observed multiple ednometriomas in more than half of patients.

Endometriosis is a debilitating disease so its proper diagnosis and intervention should be done earlier to reduce the consequences like infertility and chronic pelvic pain.

CONCLUSION

Endometriosis affects almost 176 million of females globally, every 10th female is affected, so it should be considered to have proper diagnosis in the start so that debilitating problems are resolved earlier. The proper diagnosis is done is by laparoscopy and direct visualization of endometriosis. Most of the patients are found to be positive for moderate to severe disease in the form of severe adhesions and chocolate cysts. Efforts should be made to make laparoscopy available and affordable in all gynaecologcal units especially in developing countries.

REFRENCES

1. Louise GBM, Hedigar ML, Peterson CM, et al. **Incidence of endometriosis by study Population and diagnostic method: The ENDO Study.** Fertle Steril. 2011; 96:360-5.

2. Alabi OC, Zowa PK, Onwumere UM. **Incidence of endometriosis on laparoscopy in Nigerian hospital.** Trop J Obstet Gynaecol. 2013; 30:S28.

3. Bulletti C, Coccia ME, Battistoni S. **Endometriosis and infertility.** J Assist Reprod Genet. 2010; 27(8):441-47.

4. Stilley JA, Blrt JA, Sharpe –Timms KL. **Cellular and molecular basis for endometriosis associated infertility.** Cell Tissue Res. 2012; 349(3):849-62.

5. Mishra VV, Gaddagi RA, Aggarwal R, et al. **Prevalence, characteristics and management of endometriosis amongst infertile women: A one year retrospective study.** J Clin Diagnosis Res. 2015; 9(6):QC01-QC03.

6. Missmer SA, Hankinson SE, Spiegelman D. **Reproductive history and endometriosis amongst premenopausal women.** Obstet Gynaecol.2004; 104:965-974.

7. Tsuji I, Ami K, Miyazaki A. **Benefit of diagnostic laparoscopy for patients with unexplained infertility and normal hysterosalpingography findings.** Tohoku J Exp Med. 2009 Sep; 219(1):39-42.

8. Ranney B. **Endometriosis4: Hereditary tendency.** Obstet Gynecol. 1971 may; 37(5):734-7.

9. Kyama CM, Mwendda JM, Machoki J et al. **Endometriosis in African women.** Women, s health 3. 2007; 629-635.

10. Bischoff FZ, Simpson JL, **Heritabiltyand molecular genetic studies of endometriosis.** Hum Repord Update. 2000:6:37-44.

11. Victory R, Diamond MP, Johns DA. Villar,s nodule: **A case report and systematic literature review of endometriosis externa of the umbilicus.** J Minim Invasive Gynecol. 2007; 14:23-32.

12. Kennedy S, Bergqvist A, Chapron C. **ESHRE Guidelines for the diagnosis and treatment of endometriosis.** Hum Repord.2005;20:2689-704.

13. Chapron C, BArakat H, Fritel X. **Pre surgical diagnosis of posterior deep infiltrating endometriosis based on a standardized questionnaire.** Hum Repord. 2005; 20:507-13.

14. **Revised American Society for reproductive medicine classification of endometriosis: 1996.** Fertil Steril.1997; 67:817-21.

15. Sinaii N, Plumb K, C otton L. **Dofferences in characteristics among 1,000 women with endometriosis besed on extent of disease.** Fertile Steril. 2008; 89:538-45.

16. Ikechebelu JI, Eleje GU, Okafor CD. **Endometriosis seen at Diagnostic Laparoscopy for women with infertility.** J Gynecol Res Obstet. 2015; 1(1):6-9.

17. Bedaiway MA, Falcone T, Sharma RK. **Prediction of endometriosis with serum and peritoneal fluid marker: A prospective controlled trail.** Hum repord. 2002 Feb; 17(2):426-31.

18. Clement PB, the pathology of endometriosis: **A survey of the many faces of common disease emphasizing diagnostic pitfalls and unusual and newly appreciated aspects.** Adv Anat Pathol. 2007; 14:241-60.

19. Cheng YM, Wang ST, Chou CY. **Serum CA-125 in preoperative patients at high risk for endometriosis.** Obstet Gynecol. 2002; 99:375-80.

20. Mol BW, Bayram N, Lijmer JG, Wiegerinck MA, Bongers MY, van der Veen F, et al. **The performance of CA-125 measurement in the detection of endometriosis: A meta-analysis.** Fertil Steril. 1998; 70:1101-8.

21. Hebbar S[1], Chawla C. **Role of laparoscopy in evaluation of chronic pelvic pain.** J Minim Access Surg.2005 sep; 1(3):116-20.

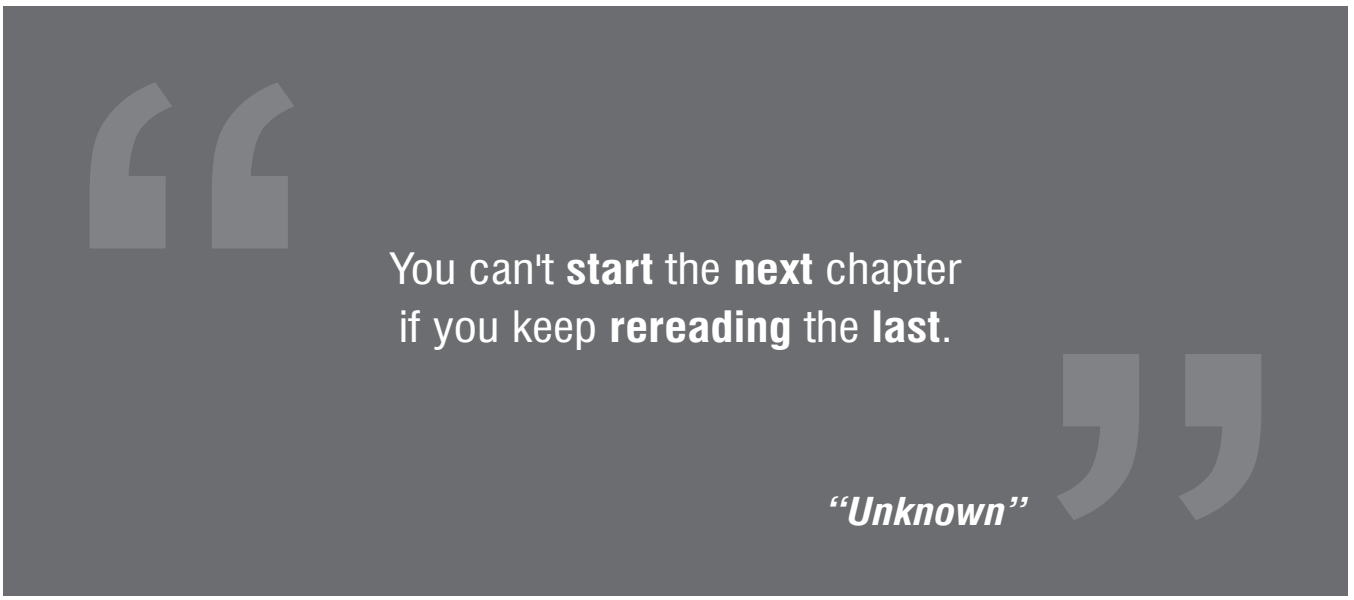
22. Fawole AO, Bello FA, Ogunbode O. **Endometriosis and associated symptoms among Nigerian women.** Int J Gynaecol Obstet. 2015 Aug; 130(2):190-4.

23. khawaja U, Khawaja A, Gowani S , et al. **Frequency of Endometriosis among infertile women and association of clinical signs and symptoms with the laparoscopic staging of endometriosis.** J pak Med Assoc. 2009; 59(1):30-4.

24. Mara M, Fucikova Z, Kuzel D. **Laparoscopy in chronic pelvic pain—a retrospectice clinical study.** Ceska Gynecol. 2002 jan; 67(1):38-46.

25. Farquhar CM. **Extracts from the "clinical evidence".** Endometriosis. BMJ. 2000 may 27; 320(7247):1449-52.

26. Aliani F, Ashrafi M, Arbipoor A. **Comparison of symptoms and localization of endometriosis involvement according to fertility status of endometriosis status.** J Obstet Gyencol. 2018 Feb; 1:1-7.



AUTHORSHIP AND CONTRIBUTION DECLARATION

Sr. #	Author-s Full Name	Contribution to the paper	Author=s Signature
1	Shahid Irshad Rao	Data analysis, Study design, Interpretation.	
2	Shazia Siddiq	Data collection, Study design, Interpretation, Principal Investigator.	
3	Saima Yasmin Qadir	Data collection and analysis, Study design, Interpretation, Principal Investigator, final reading.	
4	Zahid Sarfraz	Conception and design of the study, Data collection.	
5	Maryam Rana	Conception and design of the study, Data collection.	