Original Research Article

Comparing the degree of pelvic pain with the macroscopic features of endometriosis

Tarini Sonwani*, Ratna Biswas

Department of Obstetrics and Gynecology, Lady Hardinge Medical College, New Delhi, India

Received: 04 April 2019
Accepted: 06 May 2019

*Correspondence:
Dr. Tarini Sonwani,
E-mail: tanusonwani@gmail.com

ABSTRACT

Background: Endometriosis is considered as the chronic benign gynecologic disease which can cause chronic pelvic pain (CPP) and infertility. Endometriosis has affected almost 10% of the women of reproductive age.
Methods: Thirty women diagnosed with endometriosis were studied. Pain intensity was assessed by visual analogue scale (VAS) and categorized as mild, moderate or severe accordingly. This was followed by laparoscopy/ laparotomy and staging of endometriosis which was done as per the American Society for Reproductive Medicine (ASRM) classification system. Corrective procedures were done simultaneously.
Results: Mean age of women with endometriosis was 30±5.75 years. Majority had superficial implants (30%), 6.66% had deep implants and 6.66% had combination of superficial and deep implants. There was no significant difference between implants and severity of pain (p=0.069). There was a significant association between severity of pain with obliteration of POD. Significant association was seen between deeply infiltrating endometriosis (DIE) represented by the pouch of Douglas (POD) obliteration and severity of pain.
Conclusions: Severity of pain was significantly associated with deeply infiltrating endometriosis (DIE) represented by the pouch of Douglas (POD) obliteration. However, no association was obtained between severities of pain with superficial implants.

Keywords: Deeply infiltrating endometriosis, Macroscopic features, Pouch of douglas

INTRODUCTION

Endometriosis is a progressive and benign estrogen-dependent disease. Endometriosis characterized by the presence of endometrial tissue including glands and stroma outside the uterine cavity.[1]

In current practice laparoscopic surgeries are the main indication for the diagnosis and treatment of endometriosis. This is because endometriosis occurs among the women with reproductive-age and frequently lead to pelvic pain and/or infertility.[2,3] Previous studies have reported a prevalence of 10% for this condition.[2,4]

Previous studies have reported that using accurate and standardized macroscopic criteria can assist in making visual diagnosis of endometriosis.

There are only few studies which have used these macroscopic criteria.[5-8] However, previous authors have also advocated to use histological analysis for the confirming the visible lesions.[9,10] But histological assessment is not always possible mainly in the deeply infiltrating endometriosis. Hence in present study we tried to study degree of pelvic pain and try to find out its association with the macroscopic features of endometriosis.

METHODS

A prospective observational study was performed on 30 women with endometriosis in Department of Obstetrics and Gynaecology in collaboration with Department of Radiology at Lady Harding Medical College and Smt. Sucheta Kriplani Hospital, New Delhi, India from November 2012 to March 2014.

A series of 30 women, aged 20-49 years, diagnosed as having endometriosis by clinical history, abdominal and pelvic examination, transvaginalsonography and colour Doppler were included in the study. Patients with other causes of pelvic pain and infertility like pelvic inflammatory disease, torsion ovarian cyst, ectopic pregnancy, or treatment with any kind of hormonal therapy (oral contraceptives, LH-releasing hormone analogues, clomiphene, or gonadotropins) in the previous 3 months were excluded. Written informed consent was taken from all women after explaining the nature of study.

Pain intensity was assessed by visual analogue scale (VAS). Pain intensity is scored from 0 to 10, in which score 0 means no pain and 10 means worst pain. A score of 1-3, 4-6 and ≥7 is classified as mild, moderate and severe pelvic pain respectively by looking at the facial expression of the patients (Wong Baker faces).

The abdomen was palpated to feel for any mass, its approximate size, its consistency, movable or fixed, whether tender or not. Per- vaginum examination was done toassess any thickening, scarring or nodularity over pouch of Douglas. Per-rectal examination was done to feel for any thickening, nodularity, scarring over pouch of Douglas and uterosacral ligaments. Morphological features such as presence of superficial peritoneal endometriosis, ovarian endometriosis or deeply infiltrating endometriosis obliterating the cul-de-sac were noted.

All the data analysis was performed using IBM SPSS ver. 20 software. Means and standard deviations were calculated for all continuous variables and chi square and ANOVA were used to determine statistically significant differences. Probability value less than 0.05 was set in order to determine significance.

RESULTS

Mean age of study cohort was 30±5.75 years. Majority of the women were in the age group of 25-29 years (11 (36.7%)). Parity in women with endometriosis ranged from 0 to 4. The mean parity was 1.10±1.24. Out of 30 women with endometriosis, 15 (50%) were nulliparous, 2 (6.66%) women had only 1 child while 13 (43.33%) women had 2 or more children.

Out of 30 women with endometriosis, 9 (30%) had superficial implants, 2 (6.66%) had deep implants and 2 (6.66%) had combination of superficial and deep implants.

Table 1: Correlation of peritoneal implants with degree of pain by visual analogue scale in endometriosis.

Peritoneum implants	Degree of pain by VAS			p value
	Mild (n=10)	Moderate (n=15)	Severe (n=5)	
No implants (n=17)	9 (90)	8 (53.3)	0 (0)	
Superficial (n=9)	1 (10)	5 (33.3)	3 (60)	0.069
Deep (n=2)	0 (0)	1 (6.7)	1 (20)	
Both (n=2)	0 (0)	1 (6.7)	1 (20)	

Data is expressed as number of patients (percentage), VAS; visual analogue scale

Table 2: Correlation of obliteration of pouch of douglas with degree of pain by visual analogue scale in endometriosis.

POD obliteration	Degree of pain by VAS			P value
	Mild (n=10)	Moderate (n=15)	Severe (n=5)	
No obliteration (n=15)	9 (90)	6 (40)	0 (0)	
Partial obliteration (n=9)	1 (10)	7 (46.7)	1 (20)	0.001
Complete obliteration (n=6)	0 (0)	2 (13.3)	4 (80)	

Data is expressed as number of patients (percentage), VAS; visual analogue scale

DISCUSSION

Due to presence of polymorphism of endometriotic lesions, it becomes difficult to establish link between pelvic pain and endometriosis. All the lesions at microscopic level behave as a single entity.[11] At macroscopic level pelvic endometriosis can be divided into superficial peritoneal (and ovarian) endometriosis, cystic ovarian endometriosis and deeply infiltrating endometriosis.[12-14] Considering macroscopic type, endometriosis will play somewhat different roles with respect to the painful symptoms. In present study we tried to establish the relation between severity of pain and macroscopic features of endometriosis.

In present study patients experienced three types of pain; which were dysmenorrhoea, dyspareunia and chronic pelvic pain. Incidence of CPP was 56.66%. VAS was used to assess the degree of pain and was classified as mild, moderate and severe pain. We found that majority of the women experienced moderate pain (50%) and 16.67% women had severe pain. However, there were

33.33% women who experienced mild pain. Previous study by Somigliana et al, reported that dysmenorrhoea was present in 77.4% of women with endometriosis, dyspareunia was present in 46.2% of women while chronic pelvic pain was present in 51.6% of women.[15] The incidence of CPP reported by Somigliana et al, is in agreement to present study findings where we reported an incidence of 56.66%.[15] In a similar study, Holland et al, also reported higher percentage of dysmenorrhea, however incidence of CPP (49.5%) was similar as reported by us.[16] A lower incidence of CPP (21.5%) was reported by Dai et al.[17] This may be due to variable in geography and sample size.

Incidence of peritoneal implants in women with endometriosis obtained in present study was 43.33%. Of these, majority (30%) had superficial implants. Here we correlated peritoneal implants with severity of pain and found that women with mild pain 10% had superficial implants whereas majority of the women with severe (60%) and moderate pain (33.3%) had revealed superficial implants. Deep implants and combination of superficial and deep implants were present in only 13.4% woman out of 15 with moderate pain and in 40% woman out of 5 with severe pain while absent in women with mild pain.

However, author did not find any significance difference between implants and severity of pain. In agreement to present study previous study done by Vercellini et al, and Somigliana et al, incidence of peritoneal implants was 39.7% and 61.3% respectively.[15,18] Another study done by Muzii et al, also reported no significance association between dysmenorrhoea and peritoneal implants.[19] Similar to present study Chapron et al reported that dysmenorrhoea was associated with implants while dyspareunia and CPP were not associated with severity of pain.[8]

Incidence of POD obliteration observed in present study was 50%. Of that, 30% had partial obliteration while 20% had complete obliteration. Out of 50% women with POD obliteration, 10%, 60% and 100% experienced mild, moderate and severe pain respectively. Among the women with moderate and severe pain complete POD obliteration was found in 13.3% and 80% respectively.

Deeply infiltrating endometriosis represented by obliteration of POD correlated positively with severity of pain. In agreement to present study Reid et al reported that POD was not obliterated in 50% women while partial obliteration was seen in 18% and complete obliteration was seen in 32%.[20] In another study by Vercellini et al, found a strong association between posterior cul-de-sac lesions and pain at intercourse.[18]

Cross sectional nature and small sample size were the main limitation of the present study; a large randomized clinical trial is needed to strengthen the present study findings.

CONCLUSION

Present study results confirm the need of macroscopic confirmation to obtain a diagnosis of endometriosis as severity of pain was significantly associated with deeply infiltrating endometriosis (DIE) represented by the pouch of Douglas (POD) obliteration. However, no association was obtained between severity of pain with superficial implants.

REFERENCES

1. Walter AJ, Hentz JG, Magtibay PM, Cornella JL, Magrina JF. Endometriosis: correlation between histologic and visual findings at laparoscopy. American J Obstet Gynecol. 2001;184 (7): 1407-13.
2. Giudice LC, Kao LC. Endometriosis. The Lancet 2004;364 (9447):1789-99.
3. ESHRE Guideline for the diagnosis and treatment of endometriosis, 2007. Available at: http://guidelines.endometriosis.org/concise-pain.html. Accessed on 28 March 2019.
4. Missmer SA, Cramer DW. The epidemiology of endometriosis. Obstet Gynecol Clinics North America. 2003;30(1):1-19.
5. Forman RG, Robinson JN, Mehta Z, Barlow DH. Patient history as a simple predictor of pelvic pathology in subfertile women. Hum Reprod. 1993;8:53-5.
6. Balasch J, Creus M, Fabregues F, Carmona F, Ordi J, Martinez-Roman S, et al. Visible and non-visible endometriosis at laparoscopy in fertile and infertile women and in patients with chronic pelvic pain: a prospective study. Hum Reprod. 1996;11:387-91.
7. Vercellini P, Trespidi L, De Giorgi O, Cortesi I, Parazzini F, Crosignani PG. Endometriosis and pelvic pain: relation to disease stage and localization. Fertil Steril. 1996;65:299-304.
8. Chapron C, Barakat H, Fritel X, Dubuisson JB, Bréart G, Fauconnier A. Presurgical diagnosis of posterior deep infiltrating endometriosis based on a standardized questionnaire. Hum Reprod. 2005;20:507-13.
9. Howard FM. The role of laparoscopy in chronic pelvic pain: promise and pitfalls. Obstet Gynecol Surv 4. 1993;8:357-87.
10. Redwine DB. Ovarian endometriosis: a marker for more extensive pelvic and intestinal disease. Fertil Steril. 1999;72:310-5.
11. Clement PB. Pathology of endometriosis. Pathol Annu. 1990;25:245-95.
12. Koninckx PR, Martin D. Treatment of deeply infiltrating endometriosis. Curr Opin Obstet Gynecol. 1994;6:231-41.

13. Brosens IA, Vasquez G, Deprest J, Puttemans P. Pathogenesis of endometriosis. In Nezhat CR, Berger GS, Nezhat FR, Buttram VC and Nezhat CH (eds) Endometriosis: Advanced Management and Surgical Techniques, Vol. 1. Springer-Verlag, New York; 1995:9-17.
14. Nisolle M, Donnez J. Peritoneal endometriosis, ovarian endometriosis, and adenomyotic nodules of the rectovaginal septum are three different entities. Fertil Steril. 1997;8:585-96.
15. Somigliana E, Viganò P, Candiani M, Felicetta I, Di Blasio AM, Vignali M. Use of serum-soluble intercellular adhesion molecule-1 as a new marker of endometriosis. 2002;77(5):1028-31.
16. Holland TK, Cutner A, Saridogan E, Mavrelos D, Pateman K, Jurkovic D. Ultrasound mapping of pelvic endometriosis: does the location and number of lesions affect the diagnostic accuracy? a multi centre diagnostic accuracy study. BMC Womens Health. 2013;13:43.
17. Dai Y, Leng JH, Lang JH, Liu ZF, Li XY, Wang YY. Clinico-pathologic characteristics of posterior deeply infiltrating endometriosis lesions, pain symptoms and its treatment using laparoscopic surgery. Zhonghua Fu Chan Ke Za Zhi. 2010;45(2):93-8.
18. Vercellini P, Buggio L, Somigliana E, Barbara G, Viganò P, Fedele L. Attractiveness of women with rectovaginal endometriosis: a case-control study. Fertil Steril. 2013;99(1):212-8.
19. Muzii L, Marana R, Pedulla S, Catalano GF, Mancuso S. Correlation between endometriosis-associated dysmenorrhea and the presence of typical or atypical lesions. Fertility and Sterilit. 1997;68(1):19-22.
20. Reid S, Lu C, Casikar I, Reid G, Abbott J, Cario G, et al. Prediction of pouch of Douglas obliteration in women with suspected endometriosis using a new real-time dynamic transvaginal ultrasound technique: the sliding sign. Ultrasound Obstet Gynecol. 2013;41(6):685-91.