

# Comparing Degree of Pelvic Pain with the Revised American Society for Reproductive Medicine Classification System

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## Abstract

**Background:** Endometriosis affects approximately 6%–10% of women of reproductive-aged. Pain is the common symptoms associated with endometriosis and manifests as dysmenorrhea, chronic pelvic pain, dyspareunia, and/or dyschezia, can be debilitating. **Aims and Objectives:** To find out the association between type and degree of pelvic pain with the Revised American Society for Reproductive Medicine classification system. **Materials and Methods:** Thirty women with endometriosis were studied in Department of Obstetrics and Gynaecology. Pain intensity was assessed by visual analogue scale (VAS) and a score of 1-3, 4-6 and  $\geq 7$  is classified as mild, moderate and severe pelvic pain. Disease was staged as per the American Society for Reproductive Medicine (ASRM) classification system in grade I to Grade IV and pain severity was compared. **Results:** Mean age of study cohort was  $30 \pm 5.75$  years. Majority of the women with endometriosis were in stage III (36.66%), stage IV (30%) and stage II (23.33%). Distribution of type of pain across the ASRM stages was insignificant ( $p > 0.05$ ). Distribution of visual analogue scale for pain with ASRM Staging was statistically significant ( $p = 0.001$ ). **Conclusion:** We did not find any association between type of pain and ASRM stages however severity of pain has a significant association with ASRM stages.

**Keywords:** Pain severity, American Society for Reproductive Medicine, visual analogue scale.

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## INTRODUCTION

Endometriosis is characterized by the presence of lesions of endometrial-like tissue outside of the uterus. It is often accompanied with the inflammatory disease and pelvic pain [1]. Prevalence of endometriosis is very high worldwide (176 million approx) [2].

Chronic pelvic pain (CPP) is the most common symptom among the women with endometriosis. CPP is defined as the presence of persistent pain in the pelvis. However, no clear association was reported by previous authors between severity of the pain and extent of disease, irrespective of which classification system is used. Previous researchers have not obtained any significant association between pain symptoms and disease stage [3, 4]. The failure of many women with minimal endometriosis to respond to surgical treatment has led some investigators to question whether this is even a cause of pain [5], especially as it may be an incidental finding in asymptomatic women [6, 7].

Classifying endometriosis is a controversial and challenging. It is because of multiple manifestations of endometriosis. Till now focus was on

the anatomy, histology and disease burden. Revised American Society for Reproductive Medicine (r-ASRM) classification (r-ASRM 1997) is the best known available classification system. r-ASRM assesses the presence, size and number of endometriotic deposits and cysts, the presence and severity of any adhesions, and the degree of obliteration of the pouch of Douglas [8]. In present study we tried to find the association between type and severity of pain with the different r-ASRM disease stages.

## MATERIALS AND 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 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, transvaginal sonography 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 was 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  $\geq 7$  was classified as mild, moderate and severe pelvic pain respectively by looking at the facial expression of the patients (Wong Baker faces).

The disease was staged as per the American Society for Reproductive Medicine (ASRM) classification system [9]. Staging of endometriosis was done and appropriate scores were given as per the Revised American Society for Reproductive Medicine, 1997 classification system according to the adhesions,

endometriotic implants and posterior cul-de-sac obliteration

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  $30 \pm 5.75$  years. Majority of the women were in the age group of 25-29 years [11 (36.7%)].

Study cohort was divided based on Revised American Society for Reproductive Medicine stages and we found that out of 30 patients with endometriosis, 3 (10%) women were in stage I, 7 (23.33%) women were in stage II, 11 (36.66%) women were in stage III and 9 (30%) women were in stage IV.

**Table 1: Correlation of type of pain with ASRM staging of endometriosis**

Types of Pain		ASRM staging				P value
		I (n=3)	II(n=7)	III (n=11)	IV (n=9)	
Dysmenorrhoea	Present (n=22)	3 (100)	5 (71.4)	7 (63.6)	7 (77.8)	0.632
	Absent (n=8)	0 (0)	2 (28.6)	4 (36.4)	2 (22.2)	
Dyspareunia	Present (n=4)	0 (0)	0 (0)	1 (9.1)	3 (33.3)	0.185
	Absent (n=26)	3 (100)	7 (100)	10 (90.9)	6 (66.7)	
Chronic pelvic pain	Present (n=17)	0 (0)	3 (42.9)	8 (72.7)	6 (66.7)	0.112
	Absent (n=13)	3 (100)	4 (57.1)	3 (27.3)	3 (33.3)	

Data is expressed as number of patients (percentage), ASRM; american society for reproductive medicine

**Table-2: Correlation of degree of pain by visual analogue scale with ASRM staging in endometriosis**

ASRM Staging	Degree of pain by VAS			P value
	Mild (n=10)	Moderate (n=15)	Severe (n=5)	
I (n=3)	3 (30)	0 (0)	0 (0)	0.001
II (n=7)	4 (40)	3 (20)	0 (0)	
III (n=11)	3 (30)	8 (53.3)	0 (0)	
IV (n=9)	0 (0)	4 (26.7)	5 (100)	

Data is expressed as number of patients (percentage), ASRM; american society for reproductive medicine, VAS; visual analogue scale

## DISCUSSION

Revised ASRM is the most acceptable classification and staging system available and used by most of the researchers [10]. It uses laparoscopic findings to subdivide endometriosis severity into four stages: I (minimal), II (mild), III (moderate), and IV (severe) [10]. However, the endometriosis stages does not necessarily correlate with the severity of pain, infertility risk and outcome [11].

In present study there types of pain were experienced by the women with endometriosis which were dysmenorrhoea, dyspareunia and chronic pelvic pain. Dysmenorrhoea was present in 73.33% women;

dyspareunia was present in 13.33% women while chronic pelvic pain was present in 56.66 women. Degree of pain was assessed by VAS and divided as mild, moderate and severe pain. There were 33.33% women with mild pain, 50% women with moderate pain and 16.67% women with severe pain. In a similar study by Somigliana *et al.*, dysmenorrhoea was experienced by 77.4%, dyspareunia by 46.2% of women while chronic pelvic pain was experienced by 51.6% women [12]. Holland et al reported that dysmenorrhoea, dyspareunia and chronic pelvic pain was present in 72.2%, 45.9% and 49.5% respectively [13]. Similarly in agreement to present study Dai *et al.*, reported that dysmenorrhoea, chronic pelvic pain and dyspareunia

comprised of 61.6%, 20.3% and 21.5% respectively [14].

Previous researchers have found a possible mechanism of the severe pelvic pain in women with endometriosis which can be due to the growth of nerve fibres into ectopic implants [15, 16]. This changes the activity of neurons both locally and throughout the central nervous system [17, 18].

Out of 30 women with endometriosis, 10% were found to be in stage I, 23.33% were in stage II, 36.66% were in stage III and 30% were in stage IV. Comparing the Stages with the pain revealed that among the women with mild pain majority were in stage II (40%) and stage I (30%); none of the women was in stage IV endometriosis. Among the women with moderate pain, none belonged to stage I, however, majority belong to Stage III (53.3%) and Stage IV (26.7%). All the 5 women with severe pain were found to be in stage IV. This suggests that there was a significant association between severity of pain and severity of disease (ASRM Staging). In agreement to present study findings Somigliana *et al.*, [12] and Vercellini *et al.*, [19] reported the distribution of stages I,II,III and IV as 18.3%, 19.4%, 38.7% and 23.7%; 30.5%,14.5%,27% and 28%; 14%, 28%, 17% and 41% respectively.

We have also compared type of pain with ASRM stages. It was observed that chronic pelvic pain and dyspareunia were present more often in advanced stages, however, there was no statistically significant correlation between type of pain and severity of disease. However, Vercellini *et al.*, reported that there was a significant correlation between endometriosis stage and dysmenorrhoea and chronic pelvic pain [19]. Contrary to present study findings Chapron *et al* found a significant association between dysmenorrhoea with stages III and IV ( $p<0.001$ ) while dyspareunia and chronic pelvic pain had no association with stages III and IV [20]. In a study by Parazzini *et al.*, there was no correlation between pain and stage of endometriosis [21].

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

Endometriosis was more common among the women who were in third decade of their life. Majority of the women had severity Endometriosis as revealed by the more prevalence of stage III and IV of ASRM. We did not find any association between type of pain and ASRM stages however severity of pain has a significant association with ASRM stages. We recommend to take care of the severe pain associated among the women with endometriosis.

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