

A Retrospective Study on the Clinical Features, Diagnosis, and Management of Endometriosis

Sushma Singh¹, Ila Priyanka², Geeta Sinha³

¹Associate Professor, Department of Obstetrics and Gynaecology, Patna Medical college and Hospital, Patna, Bihar, India

²Associate Professor, Department of Obstetrics and Gynaecology, Patna Medical College and Hospital, Patna, Bihar, India.

³Professor and HOD, Department of Obstetrics and Gynaecology, Patna Medical college and Hospital, Patna, Bihar, India

Received: 10-03-2026 / Revised: 22-04-2026 / Accepted: 30-05-2026

Corresponding Author: Dr. Ila Priyanka

Conflict of interest: Nil

Abstract:

Background: Endometriosis is a chronic estrogen-dependent gynecological disorder characterized by the presence of endometrial-like tissue outside the uterine cavity. It commonly affects women of reproductive age and is associated with pelvic pain, infertility, and reduced quality of life.

Aim: To evaluate the clinical features, diagnostic modalities, anatomical distribution, and management outcomes of patients with endometriosis.

Methodology: This retrospective observational study was conducted in the Department of Obstetrics and Gynaecology, Patna Medical College and Hospital. Medical records of 90 women diagnosed with endometriosis were reviewed. Data regarding demographic characteristics, clinical presentation, diagnostic investigations, disease sites, treatment modalities, and outcomes were analyzed using descriptive statistics.

Results: Most patients were aged 26–35 years (40%). Dysmenorrhea (75.6%) and chronic pelvic pain (67.8%) were the most common symptoms, followed by infertility (42.2%). Ultrasonography was performed in all patients (100%), while diagnostic laparoscopy and histopathological confirmation were obtained in 64.4% and 57.8% of cases, respectively. Ovarian endometrioma was the most frequent site of involvement (53.3%). Medical management alone and combined medical-surgical treatment were each used in 42.2% of patients. Symptomatic improvement was observed in 82.2% of cases, while recurrence occurred in 17.8%.

Conclusion: Endometriosis predominantly affects women of reproductive age and commonly presents with pain-related symptoms. Early diagnosis and individualized management contribute to favorable outcomes, although recurrence remains a significant challenge.

Keywords: Endometriosis, Dysmenorrhea, Chronic Pelvic Pain, Infertility, Laparoscopy, Endometrioma, Management Outcomes.

DOI: 10.25258/ijpqa.17.5.29

This is an Open Access article that uses a funding model which does not charge readers or their institutions for access and distributed under the terms of the Creative Commons Attribution License (<http://creativecommons.org/licenses/by/4.0>) and the Budapest Open Access Initiative (<http://www.budapestopenaccessinitiative.org/read>), which permit unrestricted use, distribution, and reproduction in any medium, provided original work is properly credited.

Introduction

Endometriosis is a progressive, chronic and estrogen-dependent disease of the reproductive system in which endometrial like tissue exists outside the uterine cavity [1]. It is known to be one of the most prevalent benign gynecological diseases found in women of reproductive age and has been noted to be a major public health problem throughout the world because of its effects on physical, psychological, reproductive and social health. It occurs in about 10% of women worldwide and in women with chronic pelvic pain and infertility, the incidence is as high as 30–50% [2]. Backed by high prevalence, endometriosis is an underdiagnosed and often-misdiagnosed condition with delayed diagnosis and prolonged suffering for women afflicted.

The disease involves the growth and implantation of endometrial tissue at places outside the uterus, typically in the pelvic peritoneum, pouch of Douglas, deep pelvic structures, uterosacral ligaments and the ovary. There is a strong correlation between deep infiltrating endometriosis, in which lesions go below the peritoneum, and the presence of severe pelvic pain and a marked decrease in quality of life [3]. Ectopic endometrial implants cause a chronic inflammatory response that causes fibrosis, adhesion and distortion of the pelvic organs resulting in a broad spectrum of clinical presentations.

Endometriosis is characterized by a variety of symptoms, including dysmenorrhea, chronic pelvic pain,

dyspareunia, dyschezia, dysuria, and infertility [4]. Symptoms can be very different in different people and severity of symptoms is not necessarily proportional to the extent of the disease involvement. Emotional health, productivity at work, relationships and intimacy can be affected by persistent pain and infertility caused by endometriosis. Thus, the disease has a heavy socioeconomic burden on affected women and the health care systems of the world. A chronic disease typically requires frequent visits to health care providers, prolonged drug treatment, and surgical procedures, all of which contribute to the high cost of care and morbidity associated with the disease [5].

Despite all of the research, there is still not a full understanding of the exact pathogenesis of endometriosis. Theories of its development include retrograde menstruation, coelomic metaplasia, immune system abnormalities, genetic susceptibility, and abnormalities at the time of development. Also emerging evidence indicates that disturbances in the fetal development period may play a role in the onset of endometriosis, and that those who are susceptible to the disease may be predisposed to it at a later age [6]. Also, the association of endometriosis with congenital uterine malformations is evidence of a developmental origin hypothesis. Genetic changes in endometriotic lesions have also been shown with the advancement of molecular biology and suggest differential gene expression that can explain some of the complex mechanisms involved in the progression of the disease.”

“The delay in diagnosis is one of the biggest obstacles in the treatment of endometriosis. The average time from symptom onset to definitive diagnosis has been reported to be 8-12 years [7]. This is because symptoms are not always specific, and can also be similar to those of other gynecological, gastrointestinal and urinary disorders. At this time, there is no operating non-invasive diagnostic test to confirm the diagnosis of endometriosis. There are a number of potential molecular and biochemical biomarkers under consideration but none to date have shown enough accuracy to be used routinely in clinical practice. Therefore, laparoscopy with histopathological biopsy is still considered the gold standard for diagnosis.

Retrospective studies are crucial to improving the understanding of endometriosis due to the burden of disease, clinical heterogeneity, and the lack of timely diagnosis and management. To assess clinical characteristics, diagnostic methods and treatment outcomes in affected women can give insights into the pattern of disease, help with early diagnosis and enhance patient care. Hence, the current retrospective study was conducted to evaluate clinical parameters, diagnostic tests and treatment options of endometriosis to enhance the awareness and establish clinical practices based on evidence.

Methodology

Study Design: The present study was conducted as a retrospective observational study aimed at evaluating the clinical features, diagnostic approaches, and management patterns of patients diagnosed with endometriosis. The study involved the review and analysis of previously recorded hospital data of patients who had received treatment for endometriosis. A retrospective design was considered appropriate as it enabled the assessment of patient characteristics, presenting symptoms, diagnostic findings, and treatment modalities from existing medical records without influencing patient management.”

Study Area: The study was conducted in the Department of Obstetrics and Gynaecology, Patna Medical College and Hospital, Patna, Bihar, India

Study Duration: The study was conducted over a period of one year from March 2024 to February 2025.

Study Participants

Inclusion Criteria

- Female patients diagnosed with endometriosis during the study period.
- Patients aged 18 years and above.
- Patients whose diagnosis was established based on clinical findings, imaging investigations, laparoscopic findings, or histopathological confirmation.
- Patients with complete medical records containing details regarding clinical presentation, diagnostic evaluation, and treatment.
- Patients managed in the Department of Obstetrics and Gynaecology during the study period.

Exclusion Criteria

- Patients with incomplete or missing medical records.
- Patients with uncertain or unconfirmed diagnosis of endometriosis.
- Patients who were managed outside the study institution.
- Records lacking essential information regarding clinical features, diagnosis, or treatment outcomes.
- Patients with concomitant gynecological malignancies that could interfere with the assessment of endometriosis-related findings.

Sample Size: A total of 90 patients diagnosed with endometriosis and fulfilling the eligibility criteria were included in the study. The sample size was determined based on the availability of complete medical records during the study period.

Procedure: After obtaining permission from the institutional authorities, the medical records of patients diagnosed with endometriosis in the Depart-

ment of Obstetrics and Gynaecology were reviewed retrospectively. Relevant information was extracted from hospital case sheets, outpatient records, inpatient files, investigation reports, operative notes, and discharge summaries using a structured data collection form. Demographic details such as age, marital status, and reproductive history were recorded. Clinical information regarding presenting complaints, including chronic pelvic pain, dysmenorrhea, dyspareunia, infertility, abnormal uterine bleeding, and other associated symptoms, was collected. Details related to the diagnostic workup were also documented.

The diagnostic evaluation included findings from clinical pelvic examinations, ultrasonography, magnetic resonance imaging (MRI), laboratory investigations, and laparoscopic assessments wherever available. Histopathological reports were reviewed in patients who underwent surgical procedures for confirmation of diagnosis. Information regarding the anatomical location and severity of endometriotic lesions was extracted whenever documented in the records.

Treatment-related data were also collected and analyzed. Management approaches included medical therapy such as analgesics, hormonal treatment, oral contraceptive pills, progestins, gonadotropin-releasing hormone agonists, and other supportive medications. Surgical interventions, including diagnostic and operative laparoscopy, cystectomy, adhesiolysis, excision of endometriotic lesions, and hysterectomy where indicated, were also recorded. Follow-up information available in the records was reviewed to assess symptom improvement, recurrence, and treatment outcomes. All collected data

were maintained confidentially and used exclusively for research purposes.

Statistical Analysis: The collected data were entered into Microsoft Excel and subsequently analyzed using Statistical Package for Social Sciences (SPSS) version 27.0. Descriptive statistics were used to summarize demographic characteristics, clinical features, diagnostic findings, and treatment modalities. Categorical variables were expressed as frequencies and percentages, while continuous variables were presented as mean and standard deviation. Associations between selected clinical variables and management outcomes were assessed using the Chi-square test or Fisher's exact test wherever applicable. A p-value of less than 0.05 was considered statistically significant. The analyzed results were presented in the form of tables, charts, and graphs for appropriate interpretation and discussion."

Result

Table 1 shows the age-wise distribution of patients with endometriosis included in the study (n = 90). The majority of patients belonged to the 26–35 years age group, accounting for 36 cases (40%), indicating that endometriosis was most commonly diagnosed during the reproductive years. This was followed by the 36–45 years age group with 24 patients (26.7%). Patients aged 18–25 years constituted 18 cases (20%), while the lowest proportion was observed among those older than 45 years, with 12 cases (13.3%). The findings suggest that endometriosis predominantly affects women in their active reproductive age, particularly between 26 and 35 years.

Table 1: Age-wise Distribution of Patients with Endometriosis (n = 90)

Age Group (Years)	Number of Patients (n)	Percentage (%)
18–25	18	20
26–35	36	40
36–45	24	26.7
>45	12	13.3
Total	90	100

Table 2 illustrates the clinical presentation of patients with endometriosis (n = 90). Dysmenorrhea was the most common symptom, reported by 68 patients (75.6%), followed by chronic pelvic pain in 61 patients (67.8%). Infertility was observed in 38 patients (42.2%), indicating its significant association with endometriosis. Dyspareunia was present in 34 patients (37.8%), while abnormal uterine bleeding

affected 27 patients (30%). Gastrointestinal symptoms such as dyschezia were reported by 18 patients (20%), whereas urinary symptoms in the form of dysuria were the least common, affecting 11 patients (12.2%). These findings suggest that pain-related symptoms predominated among patients with endometriosis."

Table 2: Clinical Presentation of Patients with Endometriosis (n = 90)

Clinical Feature	Number of Patients (n)	Percentage (%)
Dysmenorrhea	68	75.6
Chronic Pelvic Pain	61	67.8
Infertility	38	42.2
Dyspareunia	34	37.8

Abnormal Uterine Bleeding	27	30
Dyschezia	18	20
Dysuria	11	12.2

“Table 3 presents the diagnostic modalities used for the evaluation of endometriosis among the 90 study participants. Ultrasonography (USG) was performed in all patients, accounting for 100%, making it the most commonly utilized initial diagnostic tool. Diagnostic laparoscopy was conducted in 58 patients (64.4%), reflecting its important role in the confirmation and assessment of disease extent. Histo-

pathological confirmation was obtained in 52 patients (57.8%), providing definitive evidence of endometriosis. MRI pelvis was used in 42 patients (46.7%), particularly for detailed anatomical evaluation. Elevated serum CA-125 levels were observed in 39 patients (43.3%), indicating its supportive but non-specific role in the diagnostic workup of endometriosis.

Diagnostic Method	Number of Patients (n)	Percentage (%)
Ultrasonography (USG)	90	100
MRI Pelvis	42	46.7
Diagnostic Laparoscopy	58	64.4
Histopathological Confirmation	52	57.8
Serum CA-125 Elevated	39	43.3

Table 4 presents the anatomical sites of endometriosis detected among the 90 study participants. The ovary (endometrioma) was the most commonly affected site, observed in 48 patients (53.3%), indicating that ovarian involvement constituted the predominant manifestation of endometriosis in the study population. Pelvic peritoneal lesions were identified in 20 patients (22.2%), making them the

second most frequent site. Involvement of the uterosacral ligaments was noted in 10 patients (11.1%), while the rectovaginal septum was affected in 7 patients (7.8%). Multiple-site endometriosis was detected in 5 patients (5.6%), reflecting more extensive disease involvement. Overall, ovarian endometriosis accounted for more than half of all detected cases.”

Site of Endometriosis	Number of Patients (n)	Percentage (%)
Ovary (Endometrioma)	48	53.3
Pelvic Peritoneum	20	22.2
Uterosacral Ligaments	10	11.1
Rectovaginal Septum	7	7.8
Multiple Sites	5	5.6
Total	90	100

“Table 5 depicts the management of endometriosis and clinical outcomes among the study participants (n = 90). The findings show that medical management alone and combined medical-surgical management were the most commonly adopted treatment approaches, each accounting for 38 patients (42.2%). Surgical management alone was utilized in 14 patients (15.6%). Regarding treatment outcomes, a substantial majority of patients, 74 (82.2%), re-

ported symptomatic improvement during follow-up, indicating the effectiveness of the therapeutic interventions. However, recurrence of symptoms was observed in 16 patients (17.8%), suggesting that despite favorable outcomes in most cases, endometriosis remains a chronic condition with a risk of symptom recurrence requiring ongoing monitoring and management.

Variable	Number of Patients (n)	Percentage (%)
Medical Management Only	38	42.2
Surgical Management Only	14	15.6
Combined Medical and Surgical Management	38	42.2
Symptomatic Improvement on Follow-up	74	82.2
Recurrence of Symptoms	16	17.8

Discussion

In a retrospective study, the clinical characteristics, diagnosis, anatomical distribution and prognosis of

90 women with endometriosis were assessed. The results are consistent with the known facts of endometriosis being a chronic disease that affects women primarily during the reproductive stage of their life, and associated with symptoms of chronic pelvic pain, menstrual irregularities, infertility, and a marked decrease in quality of life.”

“The age group 26-35 years had the highest proportion of patients (40%) while 36-45 years had the next highest (26.7%). This was also noted by Bellelis et al., 2010 [8] who reported that the majority of women diagnosed with endometriosis were 25 to 35 years of age—typical age when women are experiencing their most active reproductive years. Similarly, Signorile et al. (2022) [9] reported that most diagnosed cases were during the reproductive phase when the level of estrogen is at its peak. The smaller percentage of females over 45 years (13.3%) in our study reflects the reduced disease activity after menopause, as a result of the decrease in production of estrogen by the ovaries (Suardi et al., 2022) [10].

In our study, the commonest presenting symptom was dysmenorrhea with 75.6% of patients followed by chronic pelvic pain (67.8%) and infertility (42.2%). The results are similar to those of Bellelis et al. 2010 [11] who reported that around 79% of women with endometriosis experienced dysmenorrhea and 69% chronic pelvic pain. Rolla (2019) [12] also highlighted a key role of chronic inflammatory reactions and nerve fiber proliferation in ectopic endometrial lesions as the hallmark symptoms of endometriosis, specifically pelvic pain and dysmenorrhea. Chronic pelvic pain was present in 75% of patients in our study which was marginally more than the reported prevalence by Coxon et al. (2018) [13] who reported 40-60% prevalence in chronic pelvic pain patients.

The percentage of patients who were infertile in the present study was 42.2%. This is similar to the findings by Tanbo and Fedorcsak 2017 [14] who found that the infertility rates of women with endometriosis vary from 30% to 50%. Some of the reasons for the link between endometriosis and infertility have been thought to be due to distortion of the pelvic anatomy, changes in the follicular development, impaired implantation, and inflammatory changes of the reproductive function. 37.8% of our patients experienced dyspareunia, a rate consistent with that of Rolla (2019) who reported a range of 30% to 45%. The fact that 30% of patients develop abnormal uterine bleeding further illustrates the variety of disease clinical presentations.”

“This present study also revealed lower rates of dyschezia (20%) and dysuria (12.2%). Signorile and colleagues (2022) also found the urinary symptoms were less prevalent than those related to pain. On the other hand, Wu et al. (2018) [15] reported a strong correlation between endometriosis and bladder pain

syndrome and urinary disorders in female patients. Our lower prevalence rates could be attributed to the small number of patients with deep endometriosis in the urinary tract in our study.

As far as diagnostic evaluation, ultrasonography was used in all patients (100%). This presents a similar observation to the present clinical practice, where ultrasonography is used as a first-line imaging modality due to the fact that it is accessible, affordable, and effective in detecting ovarian endometriomas (Rolla, 2019). Diagnostic laparoscopy was performed in 64.4% of our patients. Also in minimal and mild disease, laparoscopy is the gold standard for diagnosis as noted by D'Hooghe et al. (2006) [16]. The histological diagnosis of endometriosis was obtained in 57.8% of the patients, emphasizing the role of pathological diagnosis in the confirmation of endometriosis.

The MRI was performed in 46.7% of patients with a special emphasis on patients suspected of having deep infiltrating disease. This is in agreement with others who found that MRI was increasingly being used to assess complex pelvic anatomy and deep lesions (Signorile et al., 2022). 43.3% of patients had elevated serum CA 125 levels. Signorile and Baldi (2014) [17] reported similar findings that CA-125 is useful for supporting clinical suspicion, but is not sufficiently sensitive and specific to be used as an independent diagnostic marker.

The evaluation of the anatomical distribution showed that the most frequent lesion is ovarian endometrioma (53.3%). The present observation is similar to that of Bellelis et al. (2010) that ovarian involvement was found in almost half of the diagnosed patients. Pelvic peritoneal lesions and involvement of uterosacral ligament and rectovaginal septum were observed in 22.2% and 11.1% respectively. There was involvement of pelvic peritoneum in 22.2% of cases and involvement of uterosacral ligament and rectovaginal septum in 11.1% and 7.8% respectively. This finding lines up with a previous study by Signorile et al. (2022) which found that the most common type of endometriosis was in the ovaries and peritoneum. The lower prevalence rate of rectovaginal disease in our study may suggest earlier diagnosis of rectovaginal disease before the disease advanced to advanced deep infiltrating disease.

The outcome of management in the current investigation revealed that medical treatment alone and combined medical surgical treatment were equally utilized (42.2% each) while surgery alone was used in 15.6% of patients. The results of this study are similar to those of Tanbo and Fedorcsak (2017) who stressed the need for personalized treatment, depending on the severity of symptoms, desire for fertility and extent of disease. Most significantly, patients experienced symptomatic improvement dur-

ing follow-up, similar to the positive results reported by Rolla (2019). Despite treatment, however, 17.8% of patients experienced recurrence of symptoms, thereby demonstrating the chronic and recurrent nature of endometriosis.

In general, the present study's results support earlier studies showing that endometriosis is a primary condition of the reproductive-aged population, has a clinical presentation that is mostly dysmenorrhea and chronic pelvic pain, frequently involves the ovary, and is amenable to medical and surgical treatment tailored to the individual. However, the chronicity and reoccurrence of symptoms in some patients highlight the need for early diagnosis, long-term follow-up and multidisciplinary treatment.

Conclusion

The present retrospective study highlights that endometriosis is a common gynecological disorder predominantly affecting women in the reproductive age group, particularly between 26 and 35 years. Dysmenorrhea and chronic pelvic pain emerged as the most frequent clinical manifestations, while infertility was also observed in a substantial proportion of patients. Ultrasonography was the most widely used diagnostic modality, whereas laparoscopy and histopathological examination played important roles in confirming the diagnosis. Ovarian endometrioma was identified as the most common anatomical site of disease involvement. Management was primarily achieved through medical therapy alone or in combination with surgical intervention, resulting in symptomatic improvement in the majority of patients. However, the occurrence of symptom recurrence in some cases emphasizes the chronic and recurrent nature of the disease. Early recognition, timely diagnosis, individualized treatment, and regular follow-up are essential to improve clinical outcomes and quality of life among women with endometriosis.”

References

1. Laganà AS, Garzon S, Götte M, Viganò P, Franchi M, Ghezzi F, Martin DC. The pathogenesis of endometriosis: molecular and cell biology insights. *International journal of molecular sciences*. 2019 Nov 10;20(22):5615.
2. Ayorinde AA, Macfarlane GJ, Saraswat L, Bhattacharya S. Chronic pelvic pain in women: an epidemiological perspective. *Women's Health*. 2015 Nov;11(6):851-64.
3. Yi DA, ZHANG JJ. Anatomical distribution of pelvic deep infiltrating endometriosis and its relationship with pain symptoms. *Chinese medical journal*. 2012 Jan 1;125(2):209-13.
4. Sachedina A, Todd N. Dysmenorrhea, endometriosis and chronic pelvic pain in adolescents. *Journal of clinical research in pediatric endocrinology*. 2020 Feb 1;12(Suppl 1):7-17.
5. Gordon K, Smith F, Dhillon S. Effective chronic disease management: patients' perspectives on medication-related problems. *Patient education and counseling*. 2007 Mar 1;65(3):407-15.
6. Cramer DW, Missmer SA. The epidemiology of endometriosis. *Annals of the new york Academy of Sciences*. 2002 Mar;955(1):11-22.
7. Ghai V, Jan H, Shakir F, Haines P, Kent A. Diagnostic delay for superficial and deep endometriosis in the United Kingdom. *Journal of Obstetrics and Gynaecology*. 2020 Jan 2;40(1):83-9.
8. Bellelis P, Dias Jr JA, Podgaec S, Gonzales M, Baracat EC, Abrão MS. Epidemiological and clinical aspects of pelvic endometriosis: series of cases. *Revista da Associacao Medica Brasileira*. 2010;56:467-71.
9. Signorile PG, Cassano M, Viceconte R, Spyrou M, Marcattilj V, Baldi A. Endometriosis: a retrospective analysis on diagnostic data in a cohort of 4,401 patients. *in vivo*. 2022 Jan 1;36(1):430-8.
10. Suardi L, Budinurdjaja P, Nurcahyawati WA, Noor MS. Impact of E2 and FSH levels on the severity of Stress Urinary Incontinence (SUI) in menopausal women. *Maj Obstet Ginekol*. 2022 Aug 29;30(2):92-100.
11. Bellelis P, Dias Jr JA, Podgaec S, Gonzales M, Baracat EC, Abrão MS. Epidemiological and clinical aspects of pelvic endometriosis: series of cases. *Revista da Associacao Medica Brasileira*. 2010;56:467-71.
12. Rolla E. Endometriosis: advances and controversies in classification, pathogenesis, diagnosis, and treatment. *F1000Research*. 2019 Apr 23;8:F1000-acuity.
13. Coxon L, Horne AW, Vincent K. Pathophysiology of endometriosis-associated pain: A review of pelvic and central nervous system mechanisms. *Best Practice & Research Clinical Obstetrics & Gynaecology*. 2018 Aug 1;51:53-67.
14. Tanbo T, Fedorcsak P. Endometriosis-associated infertility: aspects of pathophysiological mechanisms and treatment options. *Acta obstetrica et gynecologica Scandinavica*. 2017 Jun;96(6):659-67.
15. Wu CC, Chung SD, Lin HC. Endometriosis increased the risk of bladder pain syndrome/interstitial cystitis: a population-based study. *Neurology and urodynamics*. 2018 Apr;37(4):1413-8.
16. d'Hooghe TM, Mihalyi AM, Simsa P, Kyama CK, Peeraer K, De Loecker P, Meeuwis L, Segal L, Meuleman C. Why we need a noninvasive diagnostic test for minimal to mild endometriosis with a high sensitivity. *Gynecologic and obstetric investigation*. 2006 Sep 1;62(3):136.

17. Signorile PG, Baldi A. Serum biomarker for diagnosis of endometriosis. *Journal of Cellular Physiology*. 2014 Nov;229(11):1731-5.