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Normal Endoscopy Does Not Exclude Rectosigmoid Endometriosis: A Diagnostic Pitfall Revealed by Endoscopic Ultrasonography

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AUTHORS AND AFFILIATION

Sara HDIYE [1], Ahlame BENHAMDANE [1], Tarik ADDAJOU [1], Fedoua ROUIBAA [1], Hassan SEDDIK [1]

[1] Department of Digestive Endoscopy, Mohammed V Military Hospital, Rabat, Morocco

Corresponding author: Sara HDIYE .

ABSTRACT

Intestinal involvement in deep infiltrating endometriosis predominantly affects the rectosigmoid colon and may remain difficult to diagnose because mucosal abnormalities are often absent. We report the case of a 39-year-old woman with a history of diffuse endometriosis who presented with pelvic pain associated with cyclic rectal discharge. Pelvic magnetic resonance imaging suggested infiltration of the rectosigmoid junction. Rectosigmoidoscopy showed no visible abnormality. Radial rectal endoscopic ultrasonography subsequently demonstrated infiltration of the anterior sigmoid wall extending from 15 to 23 cm from the anal verge, involving the muscular layer while preserving the mucosa and the remaining rectal wall structures. Sigmoid endometriosis was diagnosed, and the patient was referred for multidisciplinary management. This case emphasizes the importance of endoscopic ultrasonography in the evaluation of suspected bowel endometriosis when conventional endoscopy is inconclusive.

KEYWORDS :

Endometriosis, MRI, endoscopic ultrasound, case report

MAIN ARTICLE

INTRODUCTION

Endometriosis is a chronic estrogen-dependent condition characterized by the presence of endometrial-like tissue outside the uterine cavity. Deep infiltrating forms may involve pelvic organs, including the gastrointestinal tract, most commonly the rectosigmoid colon. Digestive involvement can manifest with nonspecific symptoms such as pelvic pain, dyschezia, bowel habit changes, and cyclic rectal bleeding. [1]

Because intestinal lesions typically develop from the serosal surface and infiltrate the muscular layer while sparing the mucosa, conventional endoscopic evaluation may be normal despite significant disease. [2]

Imaging modalities such as pelvic magnetic resonance imaging and endoscopic ultrasonography are therefore essential for evaluating bowel involvement and defining the depth of infiltration. [2,3]

This case report describes a patient with cyclic rectal symptoms and rectosigmoid endometriosis diagnosed using endoscopic ultrasonography despite a normal rectosigmoidoscopy.

CASE REPORT :

A 39-year-old woman, followed for diffuse Endometriosis for the past two years, presented with pelvic pain associated with cyclic rectal discharge.

Pelvic MRI demonstrated infiltration of the rectosigmoid junction suggestive of digestive involvement by endometriosis. Rectosigmoidoscopy was subsequently performed and showed no mucosal abnormalities (Figure 1)

Complementary radial rectal endoscopic ultrasonography revealed infiltration of the anterior wall of the sigmoid colon extending from 15 to 23 cm from the anal verge, originating from a pelvic endometriotic focus. The lesion involved the sigmoid muscularis propria (Figures 2,3) while sparing the mucosa. The internal sphincter, external sphincter, and the muscularis propria of the remaining rectal segments were preserved (Figure 4).

A diagnosis of sigmoid endometriosis was established, and the patient was referred to the gynecology department for further multidisciplinary management.

DISCUSSION

Bowel involvement in Endometriosis represents a frequent but often underdiagnosed manifestation of deep infiltrating disease, with a predilection for the rectosigmoid junction. This localization is clinically relevant because it is associated with significant digestive and pelvic symptoms, often leading to delayed diagnosis. [1]

Patients may present with cyclical symptoms such as pelvic pain, dyschezia, constipation, or rectal bleeding, reflecting hormonal responsiveness of ectopic endometrial tissue. However, symptom specificity remains limited, and clinical presentation may overlap with other gastrointestinal or gynecologic disorders, contributing to diagnostic delay. [1]

A major diagnostic challenge lies in the typical pathophysiological pattern of bowel endometriosis, which begins at the serosal surface and progressively infiltrates the muscularis propria. Because mucosal involvement is rare, conventional endoscopic evaluation including colonoscopy or rectosigmoidoscopy is often normal even in advanced disease.[2]

This explains the discordance observed in the present case between a normal rectosigmoidoscopy and imaging evidence of sigmoid wall infiltration.

Pelvic MRI is widely considered a key first-line imaging modality for mapping deep infiltrating endometriosis and assessing pelvic organ involvement. It provides valuable information regarding lesion location, extension, and relationship with adjacent pelvic structures, which is essential for preoperative planning. However, MRI may have limitations in accurately defining bowel wall layer involvement, particularly in distinguishing muscular from serosal infiltration. [3]

Endoscopic ultrasonography complements MRI by providing high-resolution, layer-by-layer visualization of the bowel wall. Its typical finding in bowel endometriosis is a hypoechoic lesion involving the muscularis propria with preservation of the mucosal layer, which is considered highly suggestive of deep infiltrating disease. [2]

In addition, endoscopic ultrasonography allows precise characterization of lesion extent, circumferential involvement, and distance from the anal verge, which are critical parameters for therapeutic decision-making. [3]

Beyond diagnosis, endoscopic ultrasonography also plays a role in differential diagnosis, helping to distinguish endometriosis from other infiltrative bowel diseases such as malignancy or inflammatory bowel disease. [2]

The growing role of advanced endoscopic ultrasonography techniques, including fine-needle aspiration, further expands its diagnostic potential by allowing histological confirmation in selected complex cases. [4]

Overall, optimal management of bowel endometriosis requires a multidisciplinary approach integrating gynecology, gastroenterology, radiology, and colorectal surgery to tailor treatment strategies according to symptom severity and disease extent.[1]

CONCLUSION

Rectosigmoid involvement in deep infiltrating endometriosis should be suspected in patients presenting with cyclic rectal symptoms even when conventional endoscopy is normal. This case emphasizes the pivotal role of endoscopic ultrasonography in detecting muscular infiltration and guiding diagnosis and management

FIGURES :

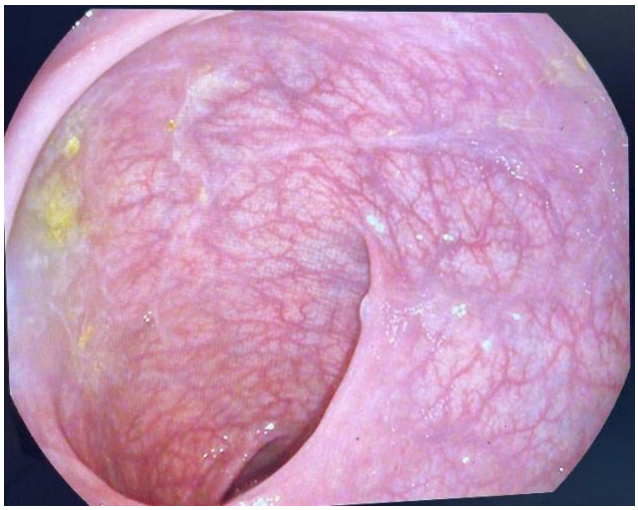

Figure 1 : Normal rectosigmoid colon on endoscopy

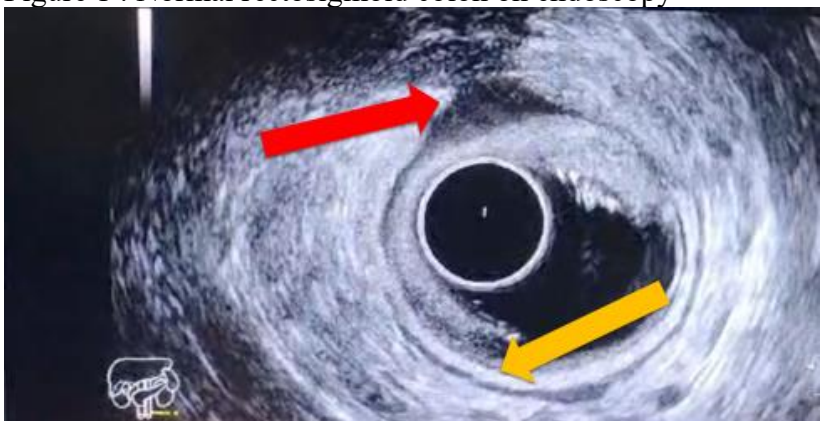

Figure 2 : endoscopic ultrasound image showing sigmoid muscularis (Orange arrow) and hourglass-shaped endometriosis (Red arrow)

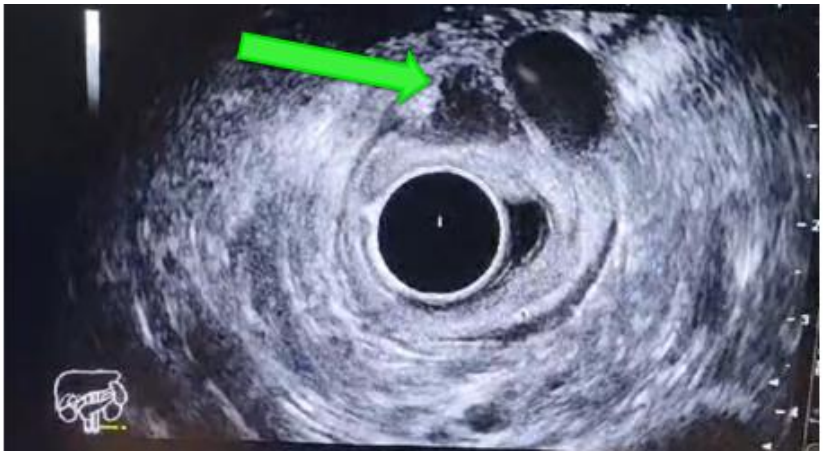

Figure 3: endoscopic ultrasound image showing an endometriosis nodule (Green arrow)

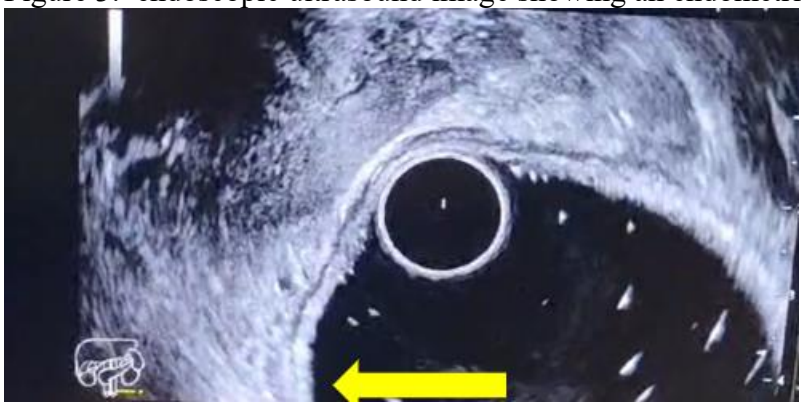

Figure 4: endoscopic ultrasound image showing normal rectal wall (Yellow arrow)

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