



EUS diagnosis of rectal endometriosis

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Endometriosis usually occurs in women of childbearing age. Deep pelvic endometriosis can infiltrate the intestinal wall, with up to 93% of reported cases involving the rectum and sigmoid colon.^{1,2} Patients may be asymptomatic or may present with dysmenorrhea, hematochezia, lower abdominal pain, constipation, diarrhea, tenesmus, and even bowel obstruction.

An association of symptoms with the menstrual cycle is an important diagnostic clue. Rectosigmoid endometriosis often mimics a submucosal tumor on colonoscopy owing to its characteristics of subepithelial infiltration; therefore, forceps biopsy can be ineffective for tissue diagnosis. Some cases should include differential diagnoses of Crohn's disease or infectious or ischemic disease when bowel wall thickening is detected on cross-sectional imaging.

Among imaging modalities, EUS often has been applied in evaluation of deep pelvic endometriosis since the late 1990s. EUS features of rectosigmoid endometriosis have been reported as including a hypoechoic deep pelvic mass with an irregular or unclear margin infiltrating the rectosigmoid wall. In a recent large cohort study of 93 patients with rectosigmoid endometriosis, preoperative EUS examination using a radial-array echoendoscope achieved an overall diagnostic accuracy, sensitivity, specificity, positive predictive value, and negative predictive value of 95.8%, 93.3%, 96.4%, 87.5%, and 98.2%, respectively.³ However, to

confirm a diagnosis of rectosigmoid endometriosis, histologic identification of endometrial glands and stroma is required. For lesions with intact intestinal mucosa, EUS-guided FNA (EUS-FNA) plays a role in preoperative tissue diagnosis.⁴ Regarding treatment, surgical management is considered in patients with recurrent or disabling symptoms that are not responsive to conservative therapy. We present a case of rectal endometriosis diagnosed by EUS and EUS-FNA.

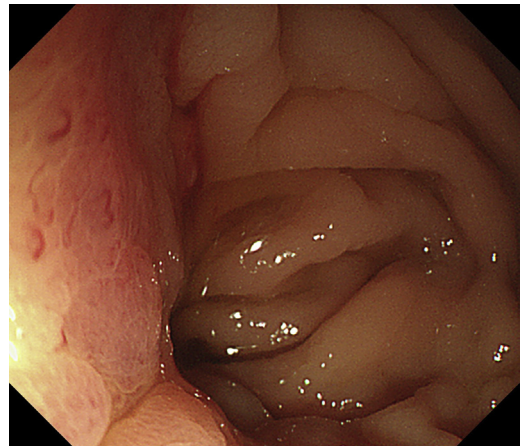


Figure 2. Endoscopic view of the submucosal elevation with mucosal erythema in the rectum.

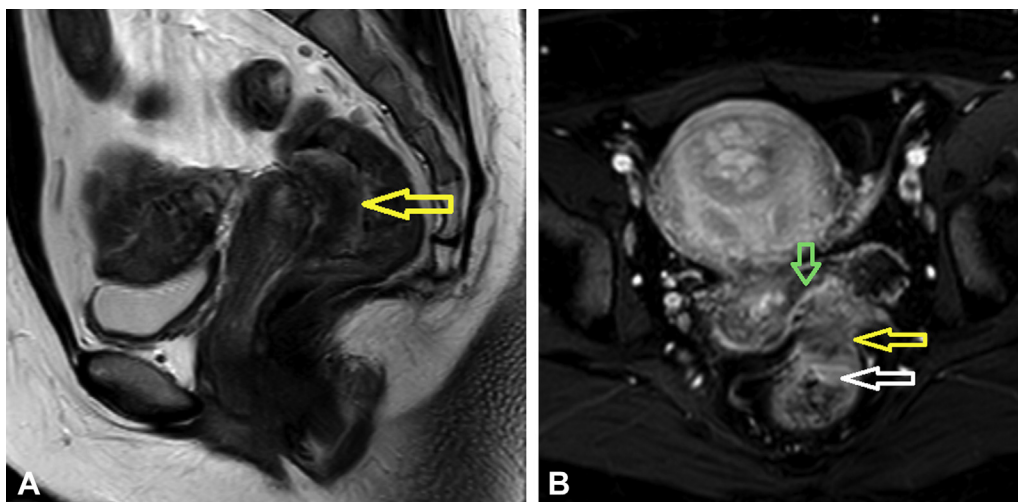


Figure 1. Pelvic MRI. **A**, Arrow showing an irregular hypointense mass at the retrocervical area on sagittal T2W1 imaging. **B**, Yellow arrow showing the deep infiltrating endometriosis invading the vaginal fornix (green arrow) and the anterior wall of the rectum (white arrow) on fat-suppressed contrast-enhanced axial T1WI imaging.

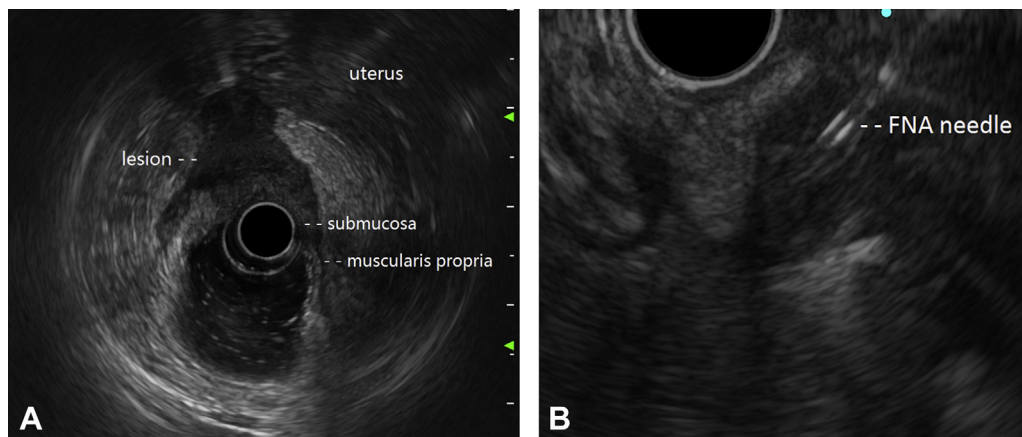


Figure 3. EUS imaging. **A**, Radial-array EUS showing the hypoechoic pelvic mass involving the posterior cervical wall and extending into the submucosal layer of the rectal wall. **B**, EUS-guided needle puncture of the lesion.

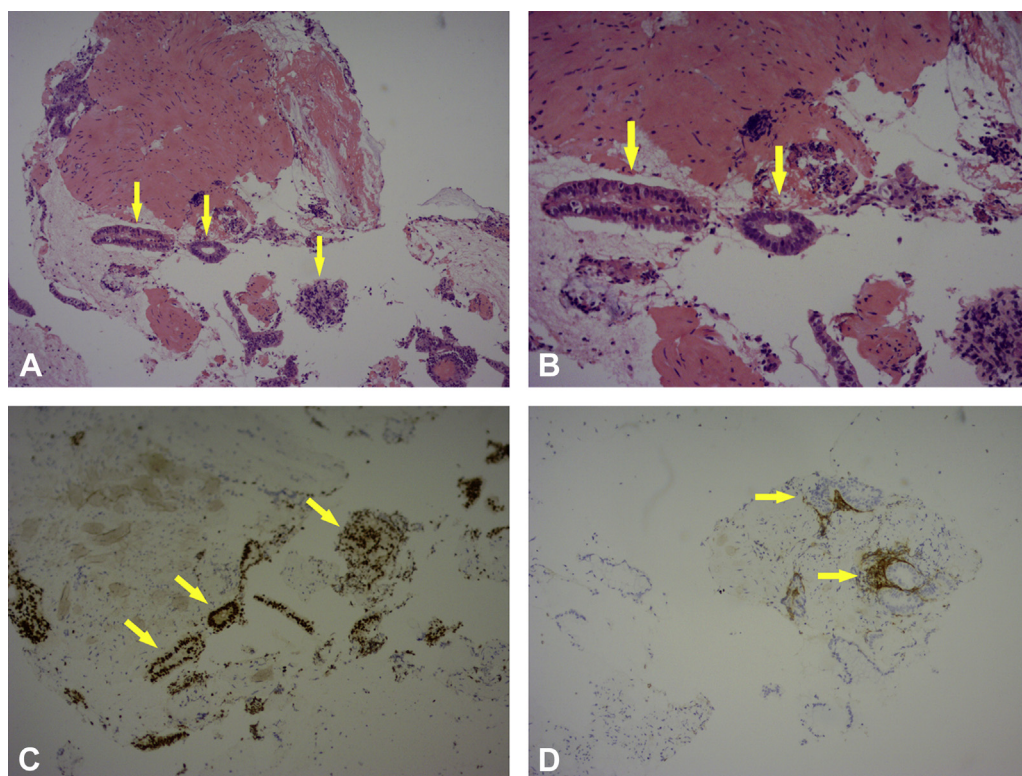


Figure 4. Histopathology of the specimens. **A and B**, Endometriotic glands (*arrows*) and stroma on hematoxylin and eosin stain (**A**, orig. mag. $\times 100$; **B**, orig. mag. $\times 200$). **C**, Immunohistochemistry showing estrogen receptor positivity in the endometrial glands (*arrows*). **D**, Immunohistochemistry showing cluster of differentiation 10 positivity in the stroma (*arrows*).

A 40-year-old woman was referred to our GI endoscopy unit for EUS evaluation of suspected rectal endometriosis. She reported a 2-month history of increased frequency of defecation, up to 6 times per day, with feelings of incomplete evacuation. She denied symptoms of hematochezia, abdominal pain, dysmenorrhea, or a relationship between her symptoms and menstrual cycle. Her medical history was unremarkable except a history of caesarean section 19 years earlier. Laboratory

tests showed slightly elevated serum cancer antigen 125 level (61.5 U/mL). A colonoscopy performed at an outside hospital revealed a submucosal rectal elevation, with biopsy results showing no evidence of malignancy. A subsequent pelvic MRI showed an irregular hypointense mass at the retrocervical area invading the posterior cervical wall, the vaginal fornix, and the anterior wall of the rectum, which suggested endometriosis (Fig. 1).

EUS was initially performed using a radial-array echoendoscope. After the endoscope was introduced into the rectum, a mild submucosal elevation with mucosal erythema was noted up to 12 cm above the anus (Fig. 2). On EUS, an irregular-shaped, hypoechoic, heterogeneous pelvic mass measuring 32.9 × 24.3 mm was detected involving the posterior cervical wall and extending into the submucosal layer of the rectal wall (Fig. 3A). EUS-FNA was then performed using a 19-gauge needle 3 times without suction (Fig. 3B), and specimens were sent for histology.

Histopathologic examination of the specimens revealed endometriotic glands and stroma. Immunohistochemical study showed estrogen receptor positivity in the glands and cluster of differentiation 10 positivity in the stroma (Fig. 4). A final diagnosis of endometriosis was confirmed. The patient is currently receiving treatment with monthly subcutaneous injection of gonadotropin-releasing hormone agonists (Video 1, available online at www.giejournal.org).

DISCLOSURE

All authors disclosed no financial relationships.

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