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ISOLATED RECTO-SIGMOID ENDOMETRIOSIS MASQUERADING AS MALIGNANCY: DIG DEEPER FOR DIAGNOSIS

Pathology

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ABSTRACT

Endometriosis, firstly described by Rokitansky in 1860, is characterized by presence of endometrial glands and/or stroma outside the uterine cavity. Estimated prevalence is about 10-15% in women of reproductive age group. Gastrointestinal involvement is known to occur in 3-37% of the cases with recto-sigmoid being the most common site of involvement. Endometriosis involving intestinal mucosa is relatively uncommon. It poses a diagnostic challenge for clinicians and pathologists. In case of misdiagnosis, any pathologists should be aware of intestinal endometriosis for each female's colorectal biopsy, especially for that morphology not typical for primary adenocarcinoma. Reading slides carefully combined with a panel of immunomarkers would solve the pitfall.

KEYWORDS

Endometriosis, Recto-sigmoid, Immunomarkers

Introduction:
Endometriosis is the ectopic growth of viable endometrium outside the uterus including the pelvic cavity, gastrointestinal tract, urinary system, pulmonary system, CNS and skin.[1] Incidence of intestinal endometriosis is 12-15% with median age of diagnosis between 30-40 years. Periodic hematochezia during the menstrual cycle is a sign usually associated with intestinal endometriosis.[2] Yet, this catamenial character of bleeding and all other accompanying symptoms, is very often absent, making the clinical history rather misleading. The authors discuss the pre-operative diagnostic difficulties, differential diagnosis, clinical history and therapeutic options.

Methods:
A 35-year-old female patient presented to the gastroenterology clinic with complaints of rectal bleeding and constipation. She reported episodes of bloody stools cyclically coinciding with her menstrual periods with burning rectal pain. She also had lower abdominal pain, colicky in nature, improved with mucoid bowel movement, and associated with a sensation of incomplete evacuation and abdominal bloating. She denied fever, diarrhea, joint pains or skin rash. She also denied any history of nausea, vomiting, loss of appetite and weight loss at the time of initial presentation. CT scan showed irregular filling defect indicating growth with proximal dilation of sigmoid colon (Figure 1A). Barium enema revealed stricture at the recto-sigmoid junction with intraluminal filling defect. She underwent flexible colonoscopy under monitored anesthesia care. Examination revealed a 6-8 cm area of erythematous, congested and granular mucosa in the sigmoid colon. Random biopsies done showed colonic mucosa with focal erosion and mild chronic inflammation. Sigmoidscopic biopsy findings were non-specific.

Clinically it was diagnosed as a case of growth recto-sigmoid junction, possibly carcinoma. On laparatomy, wide excision of recto sigmoid junction along with stricture and proximal dilated part was done and specimen was sent for histopathological examination.

Pathology findings: Grossly, on opening the 11.5 cm long recto-sigmoid portion of the gut, a grey white stricturous area measuring 2x1 cm was identified in the lumen at the junction (Figure 1B). The mucosa of dilated proximal sigmoid colon was roughened and showed minute ulcers. Microscopically, H&E stained sections from the growth like area demonstrated endometrial glands and stroma which were seen infiltrating into bowel wall from serosa to the muscularis mucosae with sparing of mucosa (Figure 1C). The dilated sigmoid colon showed multiple mucosal ulcerations with acute and chronic inflammatory infiltrate. Immunohistochemically, CK7 and CD10 identified the essence of ectopic endometrium (Figure 1D & E).

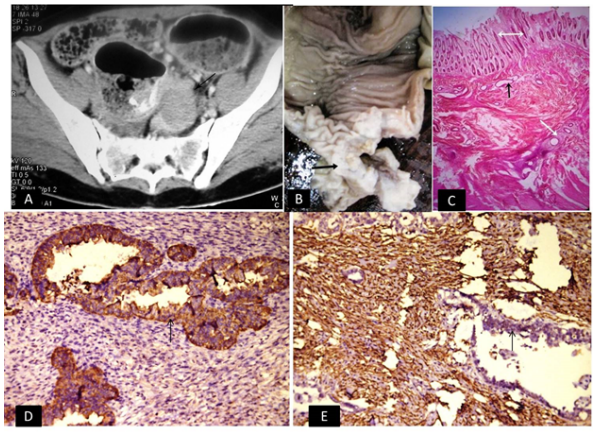

Figure 1 A: CT scan demonstrating growth (black arrow) **B:** Recto-sigmoid colon with stricturous area (black arrow) **C:** Photomicrograph showing presence of endometrial glands and stroma within the submucosa (black arrow) and muscularis propria (white arrow) with normal mucosa (white double arrow head) (H& E, 200X) **D:** CK-7 immunopositivity in endometrial glands (black line). (IHC, 400X) **E:** CD-10 immunopositivity in stromal cells with surrounding CD-10 negative endometrial gland (black line) (IHC, 400X)

Discussion:
Endometriosis is a hormone responsive pathological condition characterized by ectopic implantation of uterine endometrial tissue. Colorectal involvement can happen as a part of the disease spectrum. Symptoms include alteration in bowel habits, dyschezia, and rectal bleeding, all of which when happening in a reproductive age group female and cyclical manner should prompt the clinician to consider endometriosis as a part differential diagnosis. Complications including bowel obstruction, stricture and perforation may occur.[3] Volvulus and intussusception secondary to bowel involvement have also been described in the literature. [3,4]

The present case came to emergency with past history of progressive constipation due to partial intestinal obstruction. Such presentation due to intestinal endometriosis is very rare and so far only few cases have been reported in literature with an incidence of 0.9%.[4] The symptoms of cyclic bleeding per rectum and infertility in present case were overlooked which otherwise were quite suggestive of intestinal endometriosis. An infrequent complication of endometriosis is malignancy arising within endometriotic implants with endometrioid carcinoma being most common histologic type, requiring

differentiation from primary adenocarcinoma of colon.[5] Rarely, mixed mullerian tumor and endometrial stromal sarcoma can arise and may resemble gastrointestinal stromal tumor histologically.[5] Ectopic endometrium replaced residual mucosa, displayed abnormal architecture without any kind of epithelial metaplasia misleading to adenocarcinoma. But at high power, the nuclei of glands were relatively uniform with fine chromatin and lack of nucleoli or mitosis, which were not diagnostic of adenocarcinoma.

To identify the essence of present case, immunostain played the decisive role. As eutopic endometrium, ectopic glands express CK7, ER, and stroma expresses CD10 and ER. Rectal glands are well known to express CK20 and CDX2, but negative for CK7, ER, or CD10.[4]

In this case, barium meal and CT scan showed filling defect suggesting growth, and inconclusive sigmoidscopic biopsy findings. As for pathology, the accurate diagnosis of intestinal endometriosis is often straightforward in resection specimens. But when it goes to endoscopic biopsy specimen in particular, the diagnosis is diificult. Since endometriosis most commonly affects serosa or muscularis propria, mucosa often exhibits non-specific inflammatory infiltration, ulceration, cryptitis or architectural changes, which are all mimicing inflammatory bowel disease, ischemic colitis, solitary rectal ulcer syndrome or mucosal prolapse.[4] Ectopic endometrial glands can replace or merge with residual ones, display various metaplasia, dysplasia, and even develop endometrioid adenocarcinoma.[5]

Pre-operative EUS-FNA is very effective for the correct cytotological diagnosis of intestinal endometriosis.[6] The ultimate confirmation is by histopathological examination of excised tissue. Treatment modalities are surgery or hormonal manipulations. Laparoscopic treatment of colorectal endometriosis has been proven feasible and effective in nearly all patients. Surgical options include excision of stricture area and partial bowel resection where endometriosis is multifocal.[7,8]

Conclusion:

In summary, endometriosis involving intestinal mucosa is relatively uncommon, and diagnosis is challenging both in clinical aspect and pathology, especially for endoscopic specimen. Clinicians and pathologists should always bear the awareness of colorectal endometriosis for any female patients presenting symptoms in accord with menstrual cycle or not. If the possibility is raised when assessing tissue slides, a panel of immunomarkers will confirm the diagnosis.

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