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IMAGE | ENDOSCOPY

Endosonographic Diagnosis of Rectal Mucocele: The "Onion Skin" Sign

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CASE REPORT

An 82-year-old woman was referred for an incidental rectal lesion seen on imaging. She endorsed intermittent constipation and pelvic discomfort relieved by defecation. Her medical history was remarkable for breast cancer (s/p mastectomy) and sigmoid colectomy with diversion colostomy with subsequent reversal for perforated diverticulitis.

Computed tomography scan revealed a round homogenous low attenuation lesion adjacent to the staple line of the colocolonic anastomosis (Figure 1).

Sigmoidoscopy confirmed a perianastomotic submucosal lesion (Figure 2). Endosonographic (EUS) interrogation showed a homogeneous hypoechoic lesion with internal lamellar configuration (Figure 3) that appeared separate from the muscularis propria layer.

Mucoid material was appreciated on fine-needle aspiration (Figure 4). Free lateral movement of the needle within the lesion was noted. Cytology showed abundant mucus, rare colorectal glandular cells, and fibromuscular stroma. A diagnosis of rectal mucocele was entertained.

Rectal mucocele is rare and usually occurs after rectal surgery.[1,2] Lesion occurrence because of extraluminal sequestration of colonic mucosa at the anastomotic site after sigmoidoscopy has been previously reported.[3] This phenomenon probably occurred in our patient, when a part of the rectal mucosa was plicated and excluded when firing the staples. The secreted mucin from the excluded mucosal lining accumulated within the lesion in a lamellar fashion causing slow lesion expansion.

There is limited endosonographic literature on the "onion skin" sign and diagnosis of mucocele. This finding is well-documented in transabdominal ultrasound literature and is considered diagnostic of appendiceal mucocele with a specificity of 100% and a sensitivity of 63%.[4,5] In a case series, all patients with "onion skin" sign on transabdominal ultrasound had histopathologic confirmation of appendiceal mucocele.[6]

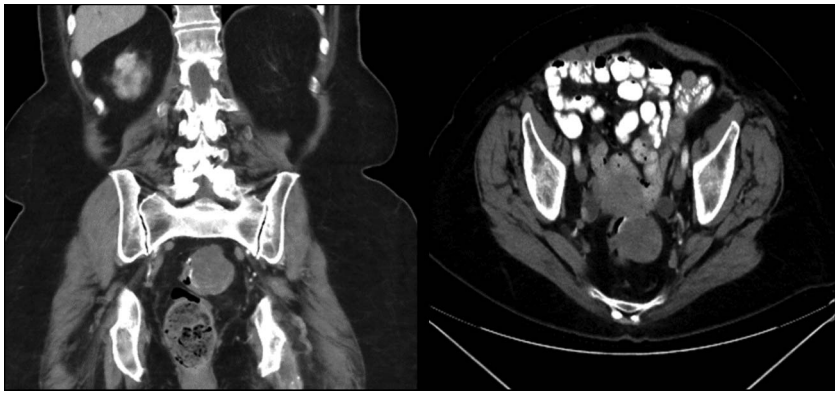

Figure 1. Computed tomography scan showing well-circumscribed perirectal lesion.

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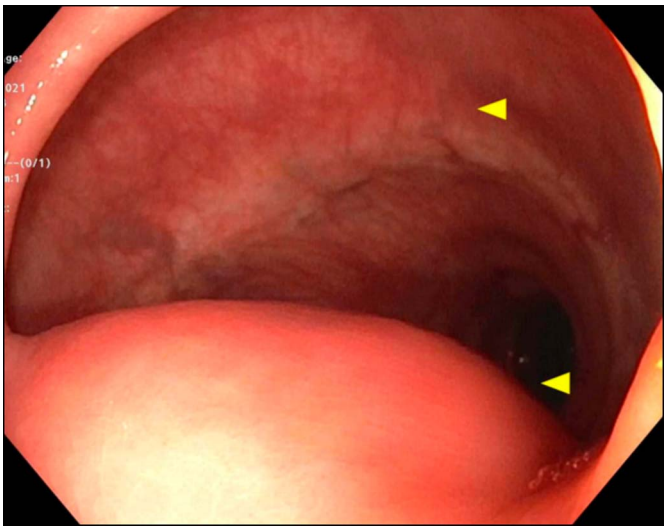

Figure 2. Sigmoidoscopy: perianastomotic submucosal rectal lesion. Anastomotic scar (upper arrow); Sub-epithelial lesion (lower arrow).

The reason for the lamellar appearance of the mucocele is unclear. It is postulated that the gelatinous material arises from mucin secretion into a closed cavity followed by gradual absorption of water and solutes. The less understood layering phenomenon is felt to be due to fluctuations in mucin secretion and vacillations in the tightness of the blockage of the cavity.[6]

In symptomatic patients, EUS-guided drainage of the mucocele can be undertaken, avoiding the need for surgical drainage and marsupialization.[7]

In the right clinical context, the "onion skin" sign within the subepithelial lesion in a postsurgical rectum may be diagnostic of a rectal mucocele replacing tissue diagnosis. However, further corroborating studies are needed. If clinically indicated, EUS-guided drainage of the lesion can be undertaken.

Figure 3. Endosonographic images: "onion skin" sign.

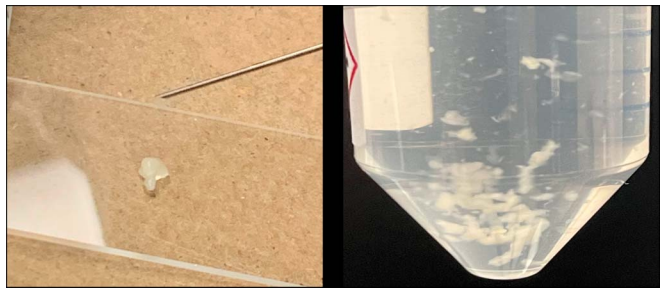

Figure 4. EUS fine needle aspirate (FNA) showing mucoid aspirate.

DISCLOSURES

Author contributions: M. Dharan: conceptualization, drafting of the article, literature search, major revisions, and is the article guarantor. T. DaCunha: drafting of article, literature search, and editing.

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