Endoscopic ultrasound-guided fine needle biopsy through the interstices of a colonic stent for the diagnosis of metastatic breast cancer using a forward-viewing linear echoendoscope

A 58-year-old woman with a history of inflammatory breast cancer treated nearly 4 years previously with modified radical mastectomy followed by chemotherapy presented with complete colonic obstruction. An abdominal computed tomography (CT) scan showed a transition point at the splenic flexure with cecal dilatation. No evidence was seen of a colonic or pericolonic mass at the transition point of the splenic flexure. An uncovered self-expandable metal stent has been placed across the stenotic area (Fig. 1) and the patient's obstructive symptoms resolved.

The oncology team requested biopsies to define whether recurrent cancer was present as this would allow the patient's enrollment into a chemotherapy trial. A forward-viewing linear echoendoscope (TGF-UC180J; Olympus) was passed into the colon. The SEMS was found in the descending colon and its lumen was seen to be narrowed (Fig. 2a). Dilation with a colonic through-the-scope dilator was performed to allow the echoendoscope to pass. There was no endoscopic evidence of visible tumor in the descending colon (Fig. 2b). On endoscopic ultrasound (EUS), diffuse and circumferential low echoic wall thickening was visualized in the descending colon (Fig. 3a). No surrounding mass or lymphadenopathy was seen. Fine needle biopsy (FNB) was performed without on-site pathologic examination. Six passes were made with a 22-gauge ultrasound-guided core biopsy needle (SharkCore FNB needle; Covidien-Medtronic, Minneapolis, Minnesota, USA) through the interstices of the stent (Fig. 3b). An additional, Ultraflex precision colonic stent (25 × 117 mm; Boston Scientific) was placed through the existing stent.

Standard hematoxylin and eosin (H&E)-stained slides were prepared from formalin-fixed paraffin-embedded biopsy material. Microscopic examination demonstrated cores of colonic mucosa infiltrated by a poorly differentiated carcinoma, consistent with a metastasis from the patient’s known breast primary (Fig. 4).

Fig. 1 Abdominal computed tomography (CT) scan showing no evidence of a colonic or pericolonic mass at the transition point of the splenic flexure. An uncovered self-expandable metal stent has been placed across the stenotic area.

Fig. 2 Endoscopic views showing: a a narrowed lumen in the uncovered self-expandable metal stent; b the narrowing after dilation with a colonic through-the-scope dilator, which allowed the echoendoscope to be passed.

Fig. 3 Endoscopic ultrasound (EUS) views showing: a diffuse and circumferential low echoic wall thickening in the descending colon; b fine needle biopsy (FNB) through-the-scope through the interstices of the self-expandable metal stent.

Fig. 4 Hematoxylin and eosin (H&E)-stained slide demonstrating a poorly differentiated carcinoma consistent with breast metastasis.

Malignancies of extracolonic origin can be the cause of colorectal obstruction. Acute colorectal obstruction generally requires rapid decompression. Self-expandable metal stent (SEMS) placement is a nonsurgical alternative for palliation of malignant extracolonic obstruction [1]. Knowing the pathology of the underlying cause of the obstruction allows management to be appropriately directed for the stented patient. Pathological confirmation of malignancy by endoscopic biopsy in patients with extracolonic obstruction is difficult and the presence of an existing stent can hamper the ability to obtain diagnostic tissue [2, 3].
References


Bibliography

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Fig. 3 Endoscopic ultrasound images showing: a a diffuse and circumferential low echoic wall thickening; b a 22-gauge ultrasound core biopsy needle being passed through the interstices of the stent.

Fig. 4 Needle core biopsy demonstrating fragments of colonic mucosa infiltrated by poorly differentiated carcinoma (arrow), characterized by nuclear atypia, high nuclear-cytoplasmic ratios, and surrounding desmoplasia (hematoxylin and eosin [H&E] stain, magnification × 200).