Successful endoscopic ultrasound-guided fine-needle aspiration through a gastroduodenal stent for the diagnosis of recurrent gallbladder carcinoma

A 55-year old woman presented with epigastric pain and vomiting of 4 days’ duration. She had a history of T2N0 gallbladder adenocarcinoma incidentally identified at cholecystectomy 6 months prior, for which she subsequently underwent resection of the cystic duct remnant. The patient declined adjuvant chemotherapy. On this admission, imaging revealed duodenal wall thickening with associated gastric outlet obstruction (Fig. 1). Upper gastrointestinal endoscopy confirmed a duodenal bulb stricture through which a standard upper gastrointestinal endoscope could not be passed (Fig. 2); biopsies showed peptic duodenitis. Endoscopic ultrasound (EUS) revealed wall thickening to 9.4 mm with inability to traverse the stricture. Cytology from fine-needle aspiration (FNA) with a 22-gauge needle was “suspicious for poorly differentiated carcinoma.” A 22 × 90-mm uncovered metal gastroduodenal stent (Wallflex; Boston Scientific, Natick, Massachusetts) was placed 4 days later to relieve her gastric outlet obstruction (Fig. 3). At oncology follow-up, the results of cytology were deemed insufficient to diagnose carcinoma recurrence. At a second EUS procedure, the echoendoscope was again unable to traverse the stricture, although the duodenal stent facilitated further intubation. A 2.0-cm masslike thickening of the duodenal wall was present. Cytology of a specimen obtained from FNA through the stent (Fig. 4, Video 1) with the 22-gauge needle confirmed the recurrence of gallbladder adenocarcinoma (Fig. 5). The patient was subsequently started on combination chemotherapy with gemcitabine and cisplatin. Cytology from fine-needle aspiration (FNA) with a 22-gauge needle was “suspicious for poorly differentiated carcinoma.” A 22 × 90-mm uncovered metal gastroduodenal stent (Wallflex; Boston Scientific, Natick, Massachusetts) was placed 4 days later to relieve her gastric outlet obstruction (Fig. 3). At oncology follow-up, the results of cytology were deemed insufficient to diagnose carcinoma recurrence. At a second EUS procedure, the echoendoscope was again unable to traverse the stricture, although the duodenal stent facilitated further intubation. A 2.0-cm masslike thickening of the duodenal wall was present. Cytology of a specimen obtained from FNA through the stent (Fig. 4, Video 1) with the 22-gauge needle confirmed the recurrence of gallbladder adenocarcinoma (Fig. 5). The patient was subsequently started on combination chemotherapy with gemcitabine and cisplatin.

EUS is effective for the preoperative diagnosis and staging of gallbladder carcinoma [1]. Similarly, FNA for the histologic evaluation of gallbladder masses is both accurate and safe [2]. In situations in which a significant luminal stricture is present, EUS staging is limited because the scope cannot traverse the lesion for a complete evaluation of the regional lymph nodes. We previously reported that FNA can be done through the interstices of a colonic stent [3]. This case builds on that experience and confirms the safety and efficacy of the technique in the upper gastrointestinal tract.

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Competing interests: Dr. DiMaio is a consultant for Boston Scientific, Natick, Massachusetts.

Video 1

On initial endoscopy, a gastroduodenal stent is seen partially occluded with debris. On the echoendoscopic view, a hypoechoic masslike invasion is seen. The fine needle used for aspiration is then passed through the interstices of the indwelling stent to obtain tissue for diagnosis.
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Fig. 4 Endoscopic ultrasound image showing the fine needle used for aspiration in the mass after traversing the interstices of the duodenal stent.

Fig. 5 Fine-needle aspiration cytologic diagnosis of adenocarcinoma. a Smear stained on site with Diff-Quik. b Cell block stained with hematoxylin and eosin.