Endoscopic management of symptomatic walled-off omental fat necrosis

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Omental infarction has been described as a rare adverse event of various abdominal surgeries, including pancreatic resection; it occasionally can lead to a walled-off omental fat necrosis (WOFN) collection. With only 1 case report describing WOFN after pancreatic resection, the incidence and appropriate management are unclear. However, a study of post–distal pancreatectomy patients found the incidence of WOFN to be much higher than previously thought, with reports of 2 presentation patterns: asymptomatic patients with incidental findings on imaging and symptomatic patients presenting with the chief symptom of abdominal pain. Asymptomatic patients with WOFN tend to do well with conservative management, whereas those with symptoms reportedly require early interventions, including percutaneous drains or surgery. Although percutaneous drainage is currently the preferred, less-invasive choice, recovery periods are often lengthy and occasionally require reoperation if symptoms persist, infection occurs, or debridement is needed. In our video (Video 1, available online at www.VideoGIE.org), we describe the first case of symptomatic WOFN presenting after distal pancreatectomy, managed endoscopically with direct debridement through a lumen-apposing metal stent (LAMS).

CASE PRESENTATION

A 57-year-old male with a history of a pT2N0Mx neuroendocrine tumor of the pancreas, status post laparoscopic distal pancreatectomy and splenectomy, presented to the hospital on postoperative day 9 with shortness of breath and abdominal pain. He was found to have an acute peripancreatic collection not amenable to percutaneous drainage. A conservative approach was attempted with serial imaging. A follow-up CT scan was scheduled for 6 weeks after the initial imaging, but the patient presented to the hospital 5.5 weeks later because he had a poor appetite with associated 25-lb weight loss since the surgery and had developed worsening persistent abdominal pain with low-grade fever.

On clinical examination, he was afebrile with mild abdominal distention and epigastric tenderness. Laboratory analysis was remarkable for leukocytosis. Blood cultures showed negative results, and he received intravenous piperacillin-tazobactam. Abdominal CT imaging showed a walled-off collection at the subdiaphragmatic location, consisting of both a large amount of fat and some fluid content (Fig. 1). Increased infiltration of the omentum anteroinferior to the collection also was noted, a new finding from previous images. The patient was diagnosed with WOFN with characteristic findings on CT scan and was referred to gastroenterology for endoscopic management.

He underwent EUS-guided drainage and direct debridement through 15-×10-mm hot Axios system (Xlumena...
Figure 2. Abdominal CT scan demonstrates resolution of walled-off omental fat necrosis. Lumen-apposing metal stent is in place (blue arrow) and was removed at a later date.

Figure 3. A, Endoscopic view of the fat necrosis. B, Endoscopic necrosectomy with a snare (blue arrow). C, WOFN cavity with visible omental fat necrosis. D, Omental fat necrosis removed from the cavity.
Inc, Mountain View, Calif, USA; Fig. 2). The procedure was uneventful, and the patient reported resolution of the symptoms within 24 hours of LAMS placement allowing discharge, with outpatient follow-up for continued endoscopic debridement. The patient underwent a total of 2 direct endoscopic debridement sessions (Fig. 3). Follow-up imaging 4 weeks later showed complete resolution of WOFN. The LAMS was removed uneventfully on follow-up endoscopy 5 weeks later. There were no immediate or delayed postprocedure adverse events. The patient continues to do well and is asymptomatic at his 12-month follow-up.

**DISCUSSION**

Postpancreatic surgery omental fat necrosis is a very rare adverse event. Its true incidence is unknown. Symptomatic WOFN historically has been managed via surgery or the percutaneous route. This novel case not only highlights the challenging diagnosis and presentation of this unusual adverse event, it also reports the first case of successful endoscopic management of symptomatic WOFN using a LAMS. The endoscopic approach used in this case is similar to the one used for endoscopic drainage of walled-off pancreatic necrosis due to pancreatitis; however, the novelty of this case is that WOFN is a challenging rare diagnosis, and if conservative management fails, EUS-guided drainage of the collection should be considered.

LAMSs have successfully been used for management of pancreatic fluid collections, EUS-guided choledocho-duodenostomy, gallbladder drainage, gastroenterostomy, transgastric ERCP, postsurgical fluid collections, and benign GI strictures. Given the prolonged recovery periods required for more-invasive surgical management of symptomatic omental infarctions and the higher morbidity and lower quality of life associated with a prolonged percutaneous approach, endoscopic drainage and debridement should be considered as a new attractive, safe, and effective alternative approach in amenable cases.

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**DISCLOSURE**

All authors disclosed no financial relationships.

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