

CONTINUING MEDICAL EDUCATION ΣΥΝΕΧΙΖΟΜΕΝΗ ΙΑΤΡΙΚΗ ΕΚΠΑΙΔΕΥΣΗ

Vascular Diseases Quiz – Case 33

A 67-year-old male presented with fever, abdominal pain and an episode of melena. Past medical history included arterial hypertension, coronary artery by-pass surgery and an open repair of infrarenal abdominal aortic aneurysm 10 years earlier. Laboratory investigation revealed microcytic anemia with Ht 31%, Hb 9.1 g/dL, WBCs 12.700/L, C-reactive protein 62 mg/L, and erythrocyte sedimentation rate (ESR) 60 mm/hour. A contrast-enhanced computed tomography (CT) scan was performed (figures 1, 2).

Quiz 1: What is the diagnosis?

Quiz 2: What is the optimal treatment for this patient's condition?

Comment

Secondary aortoenteric fistula (SAF) is an uncommon but life-threatening complication of aortic reconstructive surgery and should always be suspected in a patient with history of previous aortic procedure. The incidence of SAF is 0.4–2.4%. The classic triad of symptoms includes gastrointestinal bleeding (hematemesis, hematochezia or melena), sepsis and abdominal pain. Patients frequently present with a herald bleed –a spontaneously resolving, hemodynamically insignificant bleeding episode– before a devastating massive gastrointestinal (GI) hemorrhage occurs. The above-mentioned classic triad is present in <25% of cases and atypical symptoms include weight loss, malaise, lower extremity ischemia, or septic arthritis due to septic emboli.

SAF pathogenesis consists of repeated mechanical stress between the pulsating aortic graft and duodenum, and low-grade infection as the primary event with abscess formation and subsequent erosion through the bowel wall. SAF may involve any segment of the GI, but 75% of cases involve the third part of the duodenum and the proximal graft anastomosis (fig. 3). The mean time interval between prior aortic surgery and SAF clinical presentation is about 32 months (range: 2 days to 23 years).

Basic diagnostic workup includes upper GI endoscopy and contrast-enhanced CT scan. Esophagogastroduodenoscopy may reveal external compression of the duodenum, punctuate mucosal ulcerations and bleeding from the distal duodenum wall. In 30% of SAFs, the aortic graft can also be seen. CT findings indicative of aortoenteric fistula (AEF) include perigraft fluid collection, gas bubbles, leakage of oral contrast medium, pseudoaneurysm formation at the proximal anastomosis and thickening of adjacent bowel wall. However, it should be highlighted that absence of

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typical pathognomonic signs at CT scan does not preclude the possibility of AEF and only exploratory laparotomy can definitely evaluate if a SAF exists. In the aforementioned case, GI endoscopy was negative, but CT scan revealed perigraft fluid collection and

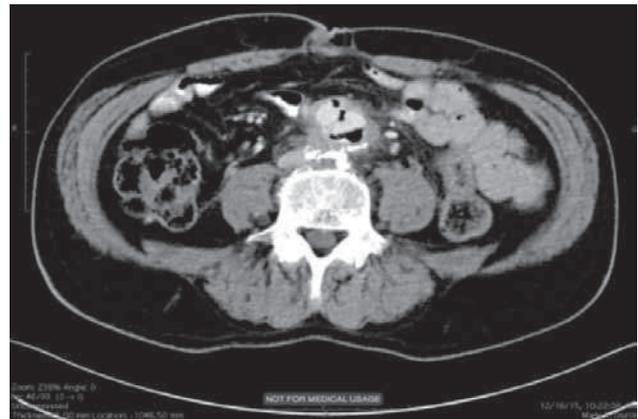


Figure 1.



Figure 2

gas bubbles (figures 1, 2).

SAF is associated with significant morbidity and mortality. Overall survival rates vary from 30% to 70%. The treatment of choice is open surgery with graft resection, debridement, establishment of an extra-anatomic circulation and repair of the bowel defect. In our patient, exploratory laparotomy revealed a fistula between the fourth portion of the duodenum and the anterior proximal wall of the aortic graft (fig. 4). The fistula was resected, the aortic graft was excised and the aortic stump was ligated distal to the renal arteries. Distal circulation was restored by an axillobifemoral bypass graft, while the duodenal defect was appropriately repaired. The patient had an uncomplicated postoperative course and was discharged on the 10th postoperative day.

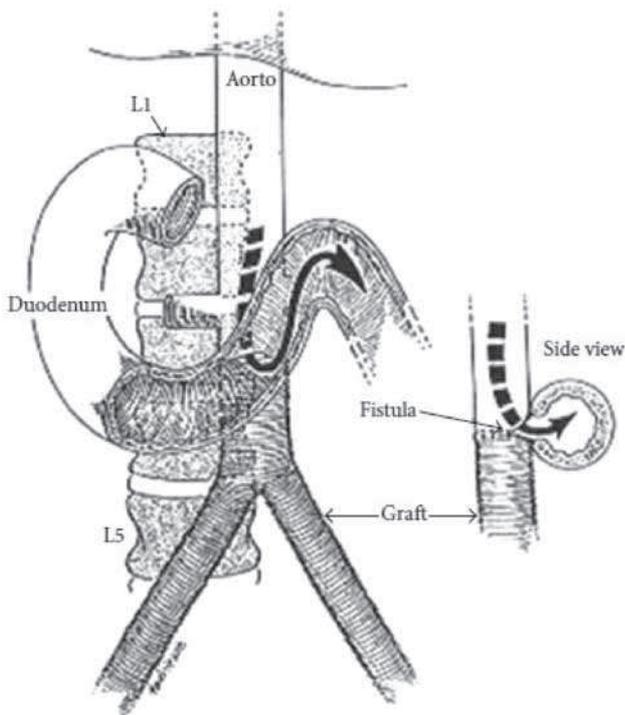


Figure 3. Drawing of aortoenteric fistula at the anastomosis of the abdominal aortic graft.

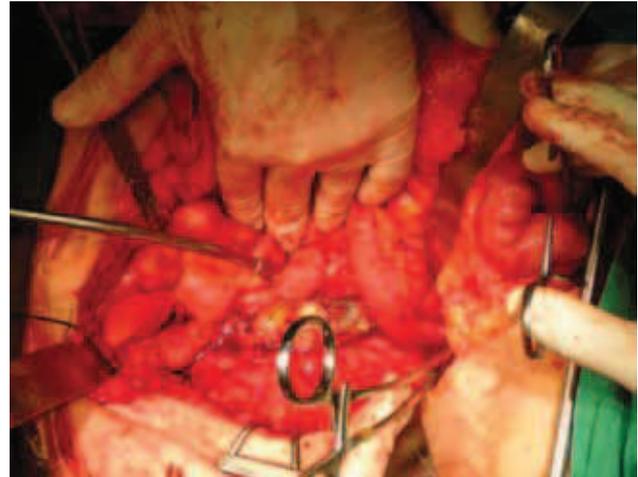


Figure 4. Operative findings in our patient. Note the graft (impregnated with colored duodenum content) and the duodenum bore of the fistula (arrow).

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Diagnosis: Secondary aortoenteric fistula following abdominal aortic aneurysm surgical repair
Treatment: Open surgical repair with graft resection, extra-anatomic bypass and repair of bowel defect