



Secondary Aortoduodenal Fistula

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A 34 year old man was admitted as an internal medicine emergency following his collapse with abdominal pain, vomiting and high fever. Three years previously, in another hospital, he had undergone aorto-right femoral left common iliac bypass for occlusive arterial disease. At that time investigation had not revealed an underlying disease.

One year prior to the present admission, revision of the aortic graft was performed because of obstruction in his left limb (aortic bifurcated graft). An ePTFE bifurcation graft had been anastomosed to a 3 cm stump of the original graft, leaving the original limbs in place. Both distal anastomoses were now to the common femoral artery. Further questioning elicited a history of occasional rigors during a 2 month period that had always resolved without treatment.

He was initially treated with broad-spectrum antibiotics. A painful petechial rash appeared on his lower legs. Blood cultures were positive for *Klebsiella* and *Candida* and his antibiotic therapy was changed accordingly, followed by a marked symptomatic improvement. Urine cultures, chest X-ray and abdominal computerized tomography were all normal. Stool tested positive for occult blood. Neither gallium scan nor indium-labeled white cell scan showed increased uptake over the graft. An upper gastrointestinal endoscopy revealed a segment of vascular graft in the lumen of the fourth part of the duodenum [Picture].

At laparotomy the proximal segment of the original aortic graft was found to have eroded the overlying duodenum. The duodenum was dissected off the graft and the defect sutured. The abdominal part of the graft was excised and the aorta closed.

Following closure of the abdomen a left axillo-bifemoral bypass was performed, using externally supported ePTFE graft. The patient made an uncomplicated recovery. Microbiologic cultures of the excised graft grew *Candida*. He was discharged 2 weeks following the operation, taking oral fluconazole. The patient resumed full activity with no evidence of sepsis or vascular complaints at follow-up of one year.

Aorto-duodenal fistula is among the most challenging problems for physicians and vascular surgeons, the incidence being 0.4–4% [1–3]. The classic triad of abdominal pain,

gastrointestinal bleeding and sepsis is present in only 30% of patients [1,2]. Theories concerning its pathogenesis include mechanical erosion caused by the constant pulsation of the aortic graft against the relatively fixed duodenum, or chronic inflammation caused by a foreign body reaction [1–3].

Upper endoscopy is a valuable tool to confirm the diagnosis of aorto-duodenal fistula. A complete examination of the duodenum is essential, as most fistulae occur in the third and fourth portions. Management strategy should be individualized in accordance with the pre-operative diagnosis, hemodynamic status of the patient, and the extent of graft contamination. The standard treatment is excision of the infected graft and construction of an extra-anatomic bypass [1–3]. Prompt operative repair of aorto-enteric fistula is imperative to prevent fatal exsanguination.

References

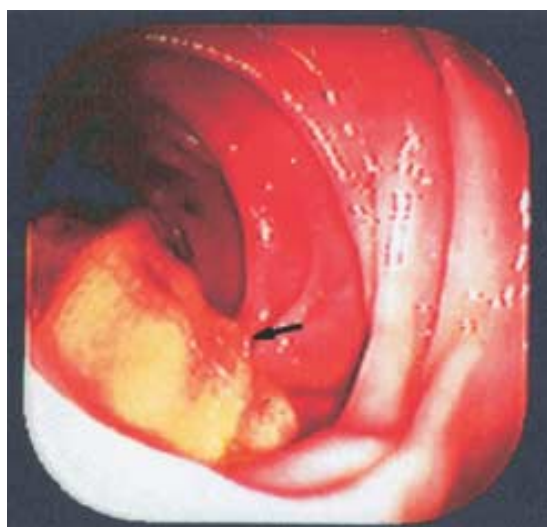
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Endoscopic view of the fourth part of the duodenum, showing an ulcer over the posterior wall with the underlying prosthetic aortic graft clearly visible.