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CASE REPORT

Coil Migration to the Duodenum 1 Year Following Embolisation of a Ruptured Giant Common Hepatic Artery Aneurysm

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Introduction: Transcatheter arterial embolisation is often performed for the treatment of visceral artery aneurysms. Here, the case of a patient who developed the rare complication of coil migration into the intestinal tract is reported, and a review of the literature is presented.
Case report: A 30 year old woman with a ruptured giant common hepatic artery aneurysm, who had been treated with transarterial coil embolisation 1 year previously, was admitted to hospital complaining of passing the coils on defecation. Abdominal Xray and gastroscopy showed the migration of the coils through a duodenal fistula. Open repair was performed with the coils successfully removed and the duodenal fistula closed with omentopexy. At the 3 year follow up, there were no signs or symptoms of complications.
Conclusion: Based on observations from this case, although coil migration to the intestinal tract is exceedingly rare, aneurysm rupture with enteric fistula can lead to coil migration.

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INTRODUCTION

Hepatic artery aneurysm (HAA) is the second most common splanchnic aneurysm. It is associated with high morbidity and mortality because of the high risk of rupture, with most patients being asymptomatic before rupture.[1] Treatment options include transarterial embolisation (TAE), reconstructive surgery, and ligation depending on the size and location of the aneurysm. Coil migration is a rare, late complication of TAE. Only seven cases of coil migration to the gastrointestinal tract after TAE of an aneurysm or pseudoaneurysm have been reported.[2—8] The case of a patient who developed coil migration to the duodenum via a fistula 1 year following TAE of a ruptured giant common hepatic artery aneurysm (CHAA) is presented. The patient consented to the publication of this report.

CASE REPORT

A 30 year old woman was referred to hospital with a giant CHAA 1 year earlier. She had previous complained of epigastric pain. A previous physician performed an upper gastrointestinal endoscopy that revealed no abnormal findings. Computed tomography (CT) showed a 6 cm CHAA and dissection of the coeliac artery (Fig. 1). Laboratory tests were normal. Autoimmune and connective tissue diseases were not suspected. Radical treatment of the visceral aneurysm required an upper gastrointestinal tract approach because the giant CHAA was close to the duodenum and pancreas. On admission, the epigastric pain disappeared and further detailed examination was planned. Two days following admission, massive haematemesis occurred and the patient developed shock. Emergency CT revealed an increase in the diameter and rupture of the aneurysm into the duodenum. Since TAE can achieve haemostasis more swiftly than the surgical approach, it was selected in this case to provide immediate haemostasis despite the young age of the patient. Angiography was performed under local anaesthesia via the right femoral artery. During angiography of the common hepatic artery, only the left hepatic artery (HA) arose from the aneurysm (Fig. 2A). The right HA was supplied by the right gastroepiploic artery. After selectively catheterising the aneurysm, TAE was performed using isolation techniques and sac packing with the placement of platinum coils in the distal common and left HA, aneurysm sac, and proximal HA. The right HA was not embolised. Finally, the collateral arterial blood supply of the liver was assessed (Fig. 2B). Following TAE the haematemesis resolved. However, upper gastrointestinal endoscopy revealed a CHAA—duodenal fistula (Fig. 3A). The fistula was gradually occluded (Fig. 3B) using proton pump inhibitor and antibiotic infusions. C-reactive protein was maximally

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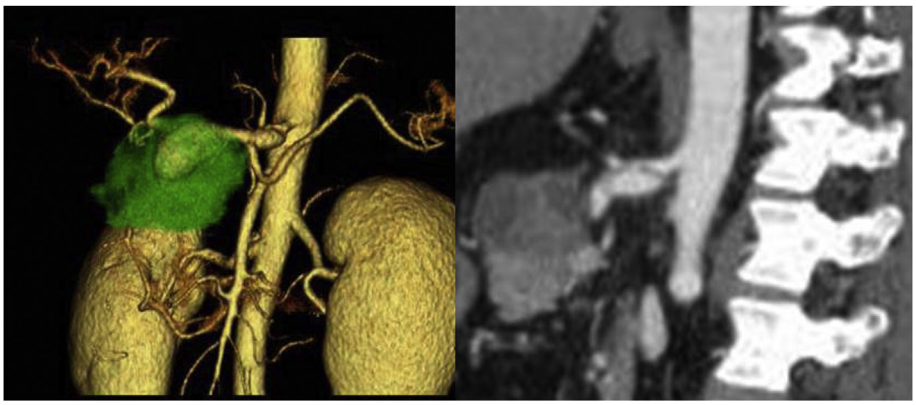

Figure 1. Contrast enhanced computed tomography showing a 6 cm common hepatic artery aneurysm and coeliac artery dissection.

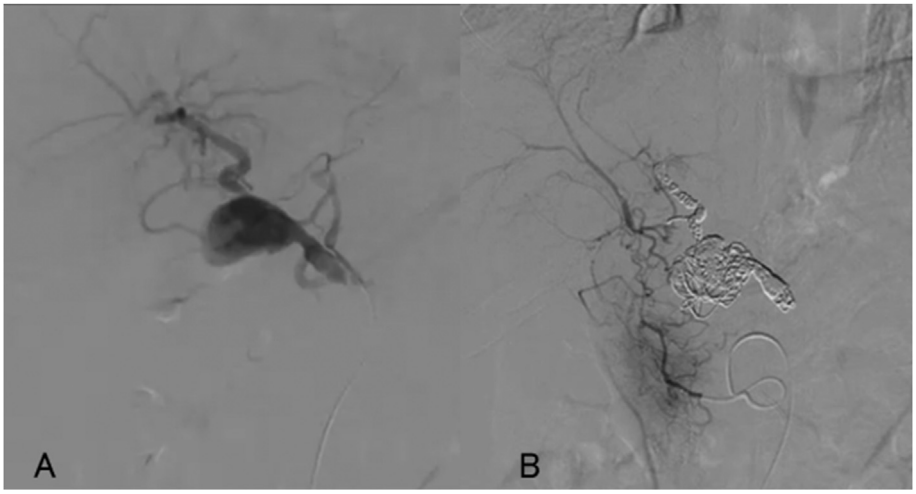

Figure 2. (A) Common hepatic artery angiography showed only left hepatic artery arising from the aneurysm. (B) After TAE, coils were placed into the aneurysm sac, proximal and distal HA. The right hepatic artery was supplied by the right gastroepiploic artery.

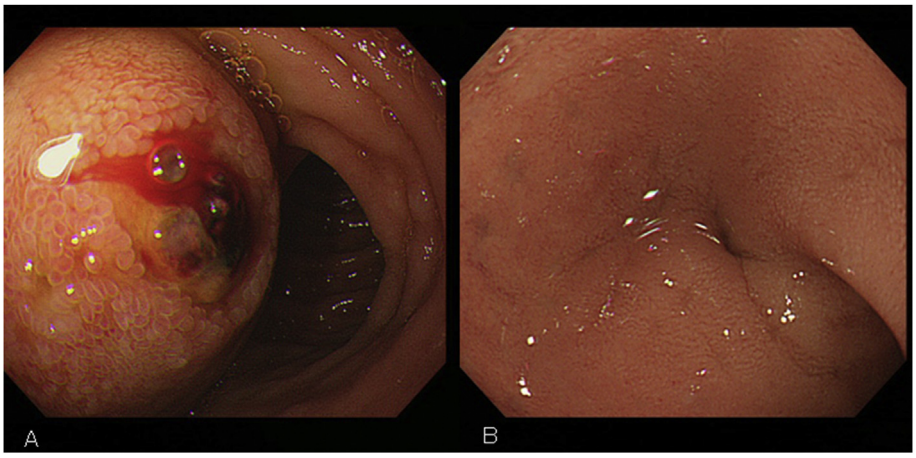

Figure 3. (A) Upper gastrointestinal endoscopy showing a common hepatic artery aneurysm—duodenal fistula following transarterial embolisation. (B) The fistula and aneurysm gradually shrank by post-operative day 30.

elevated to 7.19 mg/dL; however, its levels were normalised by post-operative day 13. The CHAA sac shrank following embolisation and the fistula developed into a scar that was confirmed several times via gastrointestinal endoscopy. Since there were no findings of infection, radical treatment was not required. The patient was discharged on post-operative day 30 following an uneventful course.

During outpatient clinical follow ups, no recurrent haematemesis or other complications were observed for up to 1 year. The size of the aneurysm was not measured because