Azygoesophageal fistula: a rare cause of upper gastrointestinal tract bleeding

A 73-year-old man, who had a history of thoracic aorta aneurysm and aortic valve replacement operations 25 years ago and anemia diagnosed 4 years previously who was currently taking warfarin, propranolol, and iron preparations, presented to the emergency department with melena and hematemesis. His blood pressure was 90/60 mmHg and his heart rate was 108 beats per minute. Investigations showed he had hemoglobin (Hb) of 9 g/dL and an international normalized ratio (INR) of 2.3.

He underwent an upper gastrointestinal endoscopy, which revealed a lesion protruding to the lumen that was 8 – 10 mm in size and magenta-colored, consistent with a vascular structure 7 – 8 cm proximal to the cardioesophageal junction (Fig. 1 a, b). The procedure was terminated without an endoscopic therapeutic intervention and the patient was admitted to the intensive care unit.

He underwent a computed tomography angiogram (CTA) 7 hours later in the interventional radiology unit, which showed postoperative changes in the ascending aorta, prominent azygos and hemiazygos veins, widespread intra-abdominal retroperitoneal venous collaterals, and web formation at the location of the opening of the inferior vena cava to the right atrium (Fig. 2). Percutaneous thoracic angiography (PTA) showed a marked degree of stenosis between the vena cava and the right atrium. This was treated by balloon dilation using angioplasty balloons with diameters of 10 – 25 mm during the same session, with improvement in the appearance of the stenotic segment and in the pressure gradient (Fig. 3). No problems were encountered during the follow-up period and the patient remains under ongoing follow-up in our outpatient clinic.

Azygoesophageal fistula is a rare cause of upper gastrointestinal tract bleeding. Shieh et al. reported a case in which bleeding from an azygoesophageal fistula was defined and safely occluded by sclerotherapy with Lipiodol [1]. Our report shows that endovascular treatment is a safe and effective treatment option for azygoesophageal fistulas.

Competing interests: None
Fig. 3  Images taken during percutaneous thoracic angiography (PTA) showing: a marked degree of stenosis related to the web seen at the atriocaval junction during imaging of the inferior vena cava; b reflux of contrast into the hemiazygos–azygos venous system during the late phase and varicosity in the azygos vein; c dilation of the atriocaval web being performed with an angioplasty balloon; d improvement in the stenotic segment following the PTA procedure.