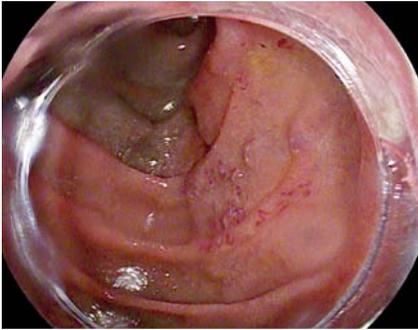
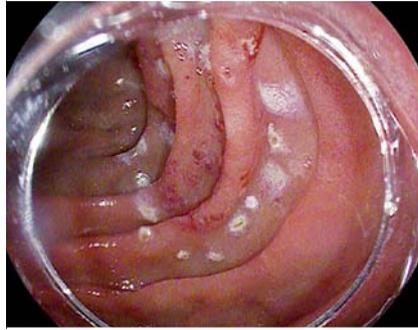


## Successful endoscopic management of a large duodenal arteriovenous malformation using an over-the-scope clip

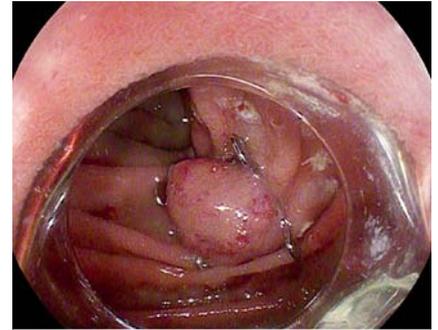
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► **Fig. 1** A large duodenal arteriovenous malformation in the second part of the duodenum.



► **Fig. 2** Application of argon plasma coagulation to mark the borders of the lesion.



► **Fig. 3** Placement of an over-the-scope clip to treat the duodenal arteriovenous malformation.

A 24-year-old man was referred for further management of a large arteriovenous malformation (AVM) in the second part of his duodenum (► **Fig. 1**). He had a long history of refractory anemia requiring regular iron infusions and recurrent episodes of gastrointestinal bleeding necessitating hospital admission. Gastroscopy at his local hospital had shown a large duodenal AVM and computed tomography angiograms per-

formed during bleeding episodes failed to identify a vessel amenable to embolization. The patient was keen to avoid surgical resection and was referred for consideration of endoscopic management.

After discussion at our multidisciplinary team meeting, the option of an over-the-scope clip (OTSC) was considered most appropriate because it is minimally invasive and the lesion was endoscopi-

cally easily accessible. At gastroscopy the duodenal AVM was identified and the borders of the lesion were marked with argon plasma coagulation (APC) (► **Fig. 2**). An OTSC (Ovesco Endoscopy, Tubingen, Germany) was then deployed (► **Fig. 3**, ► **Video 1**) with no immediate complications. The patient has since not reported any further bleeding episodes and has remained stable with no requirement for iron infusions during a 10-month follow-up period.

Large duodenal AVMs are rare and previous case reports have described successful management of bleeding lesions with angiographic embolization [1,2] although this approach has not been universally effective [3], nor has laparoscopic ligation of the feeding branch of the gastroduodenal artery [3]. Band ligation has not been previously described but carries the risk of delayed bleeding from post-ligation ulcer development and glue injection has only provided temporary hemostasis in another case report [3]. The role of endoscopic ultrasound for lesion delineation and therapy requires consideration, but in our case, the lesion was macroscopically visible, so this was not performed. Surgical resection has been used for definitive management of large AVMs but carries substantial risk in the setting of active bleeding.

### VIDEO



► **Video 1** Endoscopic-guided placement of over-the-scope clip to treat the duodenal arteriovenous malformation.

## Competing interests

Dr. Haidry has received educational grants to support research infrastructure from Medtronic Ltd, Cook Endoscopy (fellowship support), Pentax Europe, C2 Therapeutics, Beamline Diagnostic, and Fractyl Ltd.

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