LOBO® Vascular Occlusion System

CASE REVIEW
GDA Ulcer Embolization

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Patient History

A 69-year-old male with a history of HTN, BPH, GERD and AFib on Pradaxa presented to the hospital with syncope and occasional black stools. The patient was found to have hemoglobin of 4.9 (from a baseline of 13.3). The patient was transfused and underwent endoscopy, which revealed a large crater like ulcer in the duodenal bulb with large adherent clot. There was concern for perforation of the bowel due to extensive ulceration. The patient did not respond to endoscopic treatment, and acutely became more hemodynamically unstable with increasing pressor requirements and concern for active arterial bleeding. VIR was consulted and the patient was brought for immediate angiography.

Embolization

The celiac artery was selected with an Omni-SOS 3 catheter and the GDA was selected with a 2.8F PROGREAT microcatheter. Angiography demonstrated frank active arterial extravasation from the known duodenal ulcer (Figure 1). The microcatheter was navigated beyond the site of bleeding to select the gastroepiploic and superior pancreaticoduodenal arteries, and these were successfully and rapidly occluded with LOBO-3 to prevent back filling of the GDA. A LOBO-3 was then deployed across the ulcerated site with immediate occlusion. Immediate post embolization angiography showed complete occlusion of the gastroduodenal artery (Figure 2). Injections of the celiac and superior mesenteric arteries after embolization did not show any collateral/back filling of the embolized site.

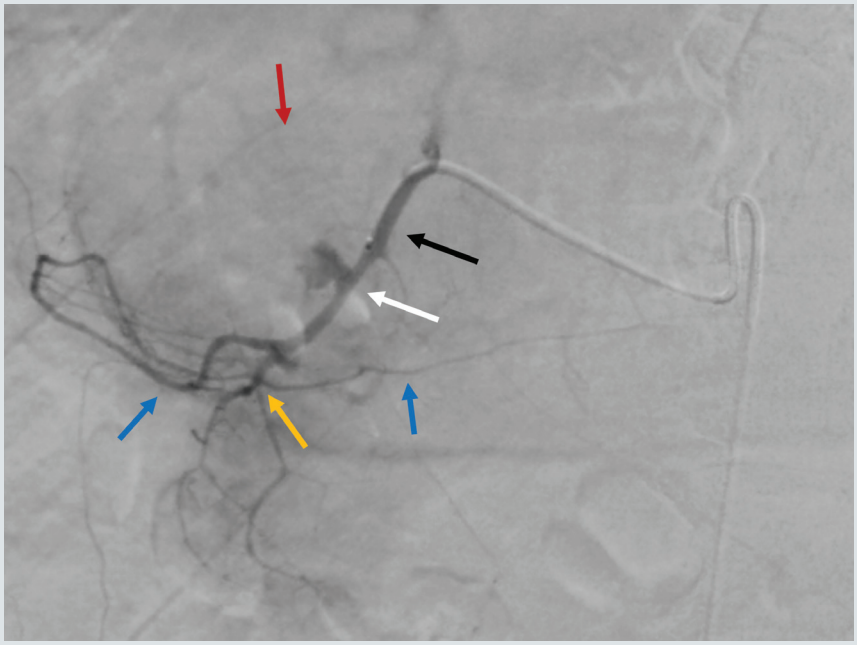

Figure 1: Angiography from the GDA (black arrow) demonstrates frank abnormality of the vessel at site of ulcer (white arrow) with active bleeding (red arrow). The gastroepiploic artery (blue arrows) and superior pancreaticoduodenal artery (yellow arrow) are seen distal to the site of active bleeding.

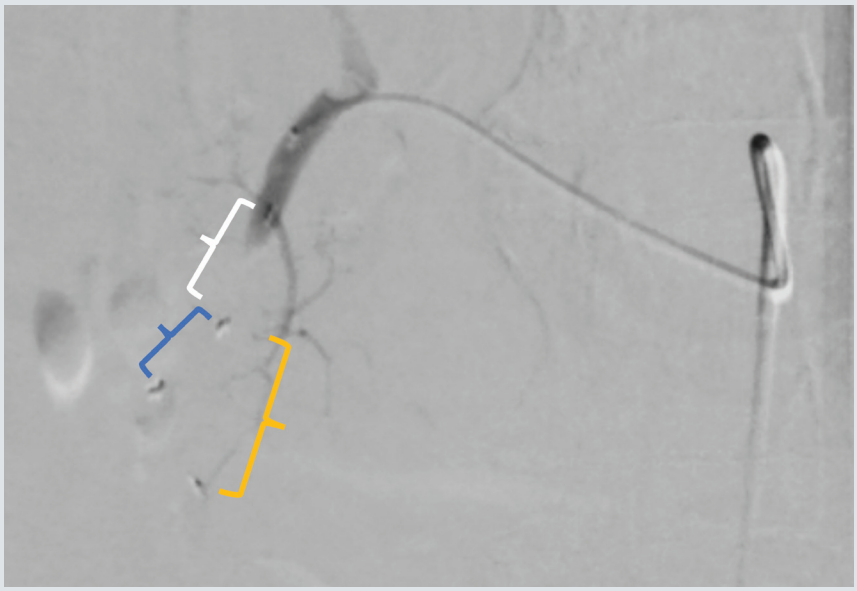

Figure 2: Post embolization angiography from the GDA demonstrates 3 LOBO-3 occluders. The superior pancreaticoduodenal artery (yellow bracket) and gastroepiploic artery (blue bracket) are occluded to prevent back filling of the gastroduodenal artery. A LOBO-3 device is also deployed across the site of ulceration (white bracket). The previously seen ulcer and active bleeding are no longer seen.

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Follow Up

The patient improved clinically on the table with a significant decrease in pressor requirements and improvement in heart rate. The patient required 2 units of transfusion overnight to catch up on blood loss but did not require any further transfusions. The patient was off pressors the next day. Repeat esophagogastroduodenoscopy performed 3 days later better characterized the ulcer with no active bleeding. The LOBO-3 occluders were not visible on EGD and there was no concern for migration or protrusion through the ulcer. A follow up CTA (Figure 3) performed 3 days after embolization demonstrates occlusion of the GDA and minimal artifact from the LOBO devices. The patient was discharged from the hospital in stable condition thereafter.

Conclusion

The LOBO occluder allowed for rapid and accurate embolization with near immediate occlusion. The simplicity of device sizing and deployment allowed for covering the exact known site of ucleration without concern for buckling or protrusion through the ulcerated vessel defect. This was a huge advantage over embolization coils in this location as it minimized the potential for rebleeding from collateral vessels and device migration. These findings were confirmed on subsequent endoscopy. Another benefit of LOBO is that it allows for advanced follow-up imaging like 3D reconstructions to be performed without significant artifact, which unlike embolization coils, allows for excellent visualization of the surrounding anatomy.

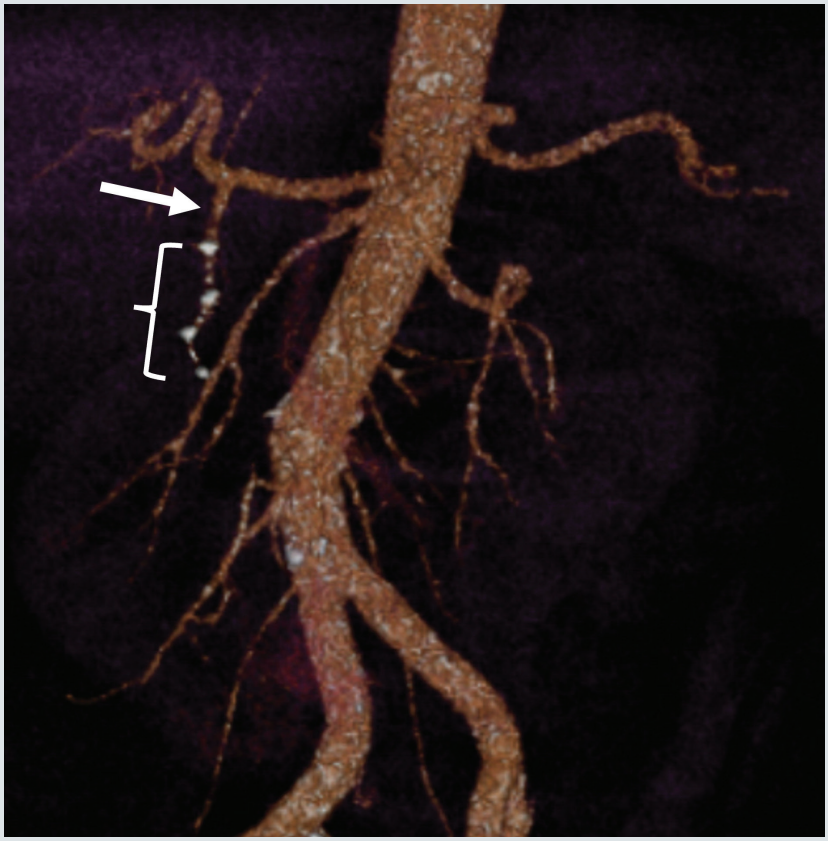

Figure 3: 3D reconstruction performed 3 days after embolization shows the GDA (white arrow) with cutoff at the level of the 3 LOBO devices (brackets). The radiopaque markers well delineate the LOBO devices and the embolized vessel with minimal artifact.

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See Instructions for Use for a complete list of warnings, precautions, and contraindications.