LOBO® Vascular Occlusion System

CASE REVIEW

Embolization of Metastatic Undifferentiated Pleomorphic Sarcoma to the Stomach

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Patient History

A 64-year-old female presented with hypotension due to decreased hemoglobin level, with concern for symptomatic anemia as a result of a slow, persistent GI bleed. Patient has a past medical history of severe cardiomyopathy secondary to doxorubicin and Sjogren syndrome as a result of metastatic undifferentiated pleomorphic sarcoma of the right shin, diagnosed in March 2020. She has advanced disease with metastasis to lungs, stomach, and brain.

The patient was no longer a candidate for chemotherapy due to cardiomyopathy and multiple comorbidities/poor functional status. She was being treated with doxorubicin, and then on a clinical trial with envafolimab and envasarc. As the disease continued to progress, the patient started on gemcitabine and docetaxel.

Patient was discharged from the hospital one week prior after being admitted for hemorrhagic shock secondary to GI bleed. An EGD performed while admitted revealed a fungating multi-lobular ulcerated mass measuring 10x5 cm in the body of the stomach, which was then biopsied. Per oncology, biopsy results appear to be consistent with a pleomorphic sarcoma.

Patient was a direct admission from the cancer infusion center due to hypotension and decreased hemoglobin. She was evaluated by Medical Oncology and admitted to the ICU. Patient reports having a cough and persistent melanotic stools at home, and states that her systolic blood pressure is typically in the 80s. Outpatient hemoglobin was 7.1 and 1 unit of PRBCs were ordered and transfused.

Intervention

Interventional Radiology was consulted for the bleeding gastric mass. The decision to perform embolization was made due to the patient's continued hematemesis and melena, which contributed to her decreasing hemoglobin and persistent need for transfusion. The ultimate plan was for the patient to undergo radiation therapy to control the bleeding. However, oncology services required embolization of the mass in order to stabilize the patient prior to initiating radiation treatment.

Access was achieved via the left common femoral artery due to an indwelling right common femoral artery line. Initially an Omni SOS catheter was used for interrogation of the celiac and SMA, but this was later switched over a wire to a C2 catheter for better purchase of the catheter into the artery for stability. The C2 catheter was used to select the common hepatic artery and was advanced distally into the origin of the GDA. A 2.8 PROGREAT microcatheter was then advanced coaxially into the GDA and navigated distally around the greater curvature of the stomach. The microcatheter was advanced distally and two first order branches of the GDA were interrogated with contrast injection.

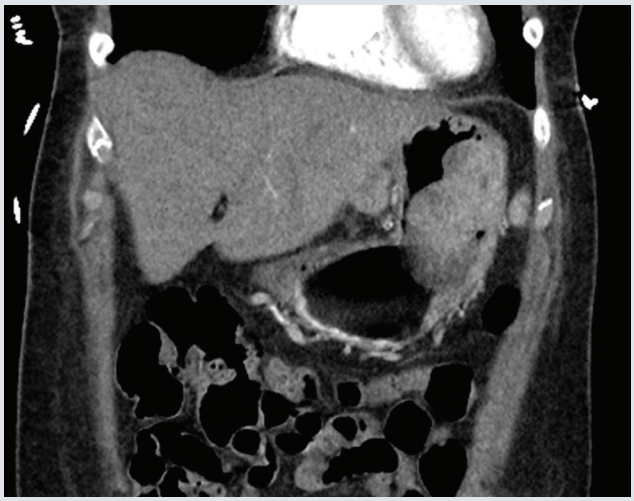

Figure 1: Coronal preoperative CT angiography for gastric embolization.

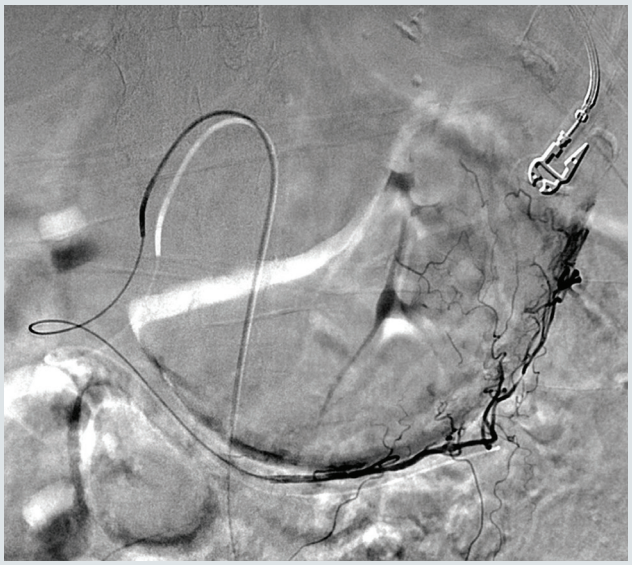

Figure 2: DSA of GDA prior to gastric embolization.

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Embolization

An angiogram demonstrated suspicious tumor blush in the region of the greater curvature of the stomach. The distal GDA was embolized with a LOBO-3 vascular occluder. LOBO-3 tracked smoothly into the far distal GDA around a substantial portion of the greater curvature. After deployment, vessel occlusion was achieved within 30 seconds, enough time to remove the deployment wire and obtain a contrast syringe for injection. A repeat angiogram confirmed occlusion of the distal GDA.

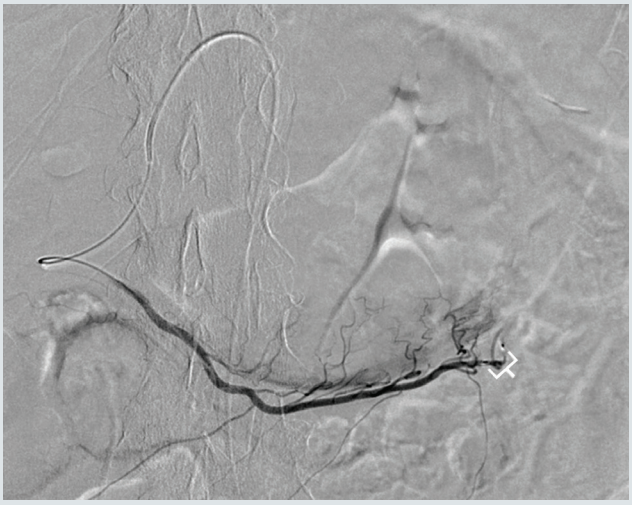

Figure 3: DSA of GDA post-embolization with LOBO-3 (bracket).

The guidewire and catheter were then used to select the left gastric artery. Two first order branches of the left gastric artery were selected and interrogated with contrast injection. Cone beam CT of the left gastric artery was performed, which demonstrated tumor blush. The left gastric artery was ultimately embolized with gelfoam, as we did not want to risk permanent occlusion of all blood supply to areas of the gastric body. Gelfoam embolization of a first order branch of the left gastric artery was performed until it slowed antegrade flow. A repeat angiogram demonstrated no further tumor blush.

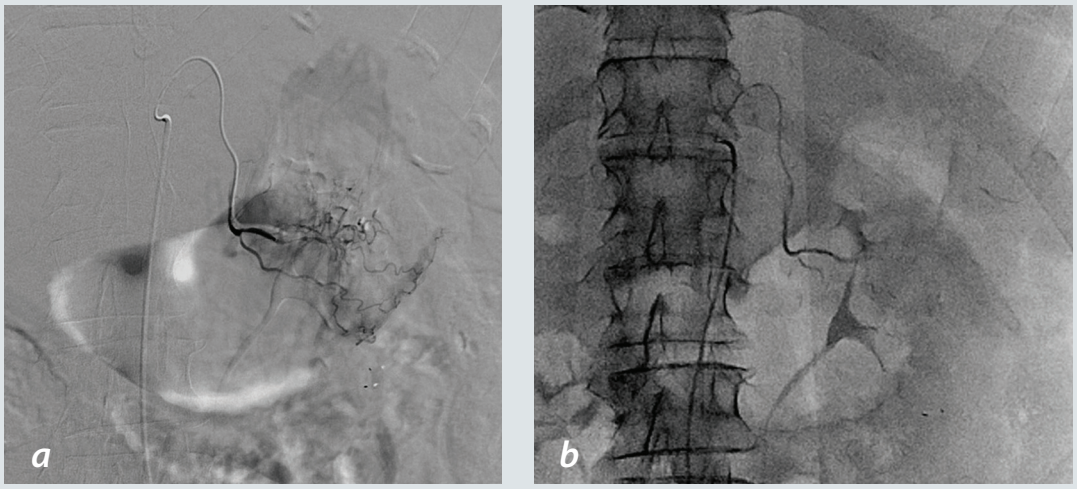

Figure 4: a) DSA of left gastric artery pre-embolization; b) Post-embolization angiogram with contrast tumor staining.

Follow-Up

The patient did well post-operatively. She continued to have low hemoglobin, but it eventually stabilized. Due to overall status and metastatic disease, she did undergo palliative care consultation. She is not a candidate for further chemotherapy, but did undergo palliative radiation to the stomach lesion. She required no further blood product after embolization. She is receiving radiation/medical oncology treatment. At this time, no further follow up imaging has been obtained after embolization.

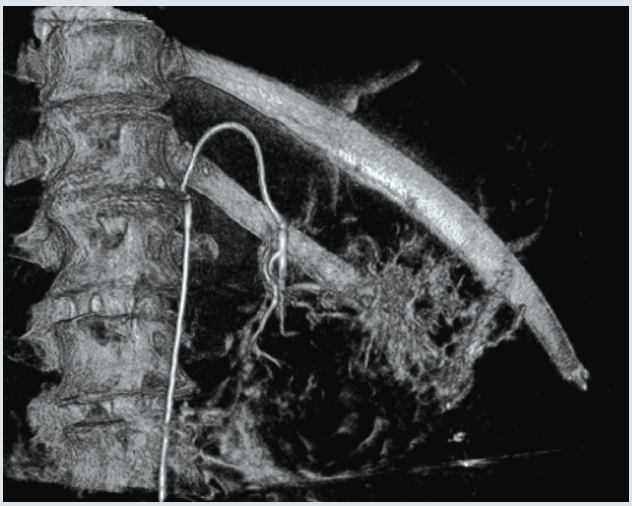

Figure 5: Post-embolization cone beam CT MIP 1.

Conclusion

The LOBO-3 was chosen for embolization of the distal GDA because of the one-and-done nature of the device and its ease of deployment. The LOBO tracked well distally in the GDA. The device trackability is particularly notable as this case required the furthest tracking into the GDA in the physician's embolization experience.

In addition, LOBO's lack of metallic scatter artifact is less likely to obscure the stomach mass on future surveillance CT scans, which the patient will most likely need to undergo given the metastatic nature of her disease.

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