Gastroduodenal Artery Stump Pseudoaneurysm Rupture Following Selective Coil Embolization Repaired Using Covered Stent Placement

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Disclosure

Speaker name: Umair Munawar, DO

I have the following potential conflicts of interest to report:

☐ Consulting
☐ Employment in industry
☐ Stockholder of a healthcare company
☐ Owner of a healthcare company
☐ Other(s)

☒ I do not have any potential conflict of interest
Introduction

- The gastroduodenal artery (GDA) stump pseudoaneurysm is a common site of delayed massive hemorrhage following a pancreaticoduodenectomy.

- Selective coil embolization of GDA pseudoaneurysms is an attractive treatment option due to the ability to keep the proper hepatic artery patent, ensuring adequate perfusion to the liver.
  - A limitation of this technique is the risk for recurrent hemorrhage at the site of embolization.

- We present a case of a GDA stump pseudoaneurysm rupture and coil unraveling after a selective coil embolization successfully managed with placement of a covered stent across the common and proper hepatic arteries.
Patient Presentation

- 39-year-old male
- PMHx: Intraductal papillary mucinous adenoma of the pancreas
- FamHx: Pancreatic cancer
- Hospital admission for pancreaticoduodenectomy
- On post-operative day 19, he developed an upper gastrointestinal bleed and underwent hepatic angiography which showed no signs of extravasation
- The patient’s condition continued to deteriorate, and a computed tomography angiography (CTA) revealed a suspected GDA stump pseudoaneurysm confirmed on repeat celiac arteriography
CTA and Angiography

A

B
Coil Embolization

- Selective coil embolization of the pseudoaneurysm using 6 x 30, 6 x 35, 8 x 35 mm micro-coils resulted in complete exclusion of the pseudoaneurysm.
Post-Embolization Angiography

- Seven days later, the patient experienced a syncopal episode and large bloody bowel movement.

- Selective common hepatic arteriography revealed a ruptured GDA stump pseudoaneurysm and unraveling of the coil pack.
Covered Stent Placement
Hospital Course

- The patient remained stable and experienced no recurrent hemorrhage.

- He was discharged shortly after.
Conclusions

- Endovascular trapping and selective coil embolization of GDA stump pseudoaneurysms can have limitations related to a short segment of the stump remnant and the proximity of the pseudoaneurysm to the origin of the GDA.

- Sometimes, the only means of technically successful endovascular trapping is a direct coil embolization of the pseudoaneurysm. Any other means of endovascular trapping such as sacrificing the hepatic artery and coiling across the pseudoaneurysm can pose increased risks of hepatic ischemic complications.

- When technically feasible, placement of a covered stent is an effective alternative in managing GDA stump pseudoaneurysms due to its ability to achieve hemostasis by effective exclusion of the pseudoaneurysm while preserving liver perfusion.


Questions?
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