Management Of A Common And Proper Hepatic Artery Aneurysm

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Introduction

- Hepatic artery aneurysms (HAA) account for 20% of splanchnic artery aneurysms
- 25% rupture rate with 70-100% mortality[1,2]
- Society of Vascular Surgery (SVS)
  - Repair all hepatic artery pseudoaneurysms
  - Repair true HAA > 2 cm
  - If significant co-morbidities, repair if HAA > 5 cm
  - First line: Endovascular repair[2,3]
- Paucity of literature on treatment outcomes and confounding management recommendations

Case Report

- 69-year-old male with a history of hypertension, hyperlipidemia and tobacco
- 2.9 cm true HAA incidentally found on surveillance CT scan for a liver cyst
- Asymptomatic
- Only prior imaging was 10 years prior, which the HAA was not present
- Pre-intervention CT angiogram suggested endovascular repair would not be feasible given the variable sizes of the arteries involved (inflow/outflow and branches)

Intervention

- Exposure through a midline incision
- 2.9cm HAA at the proximal common hepatic artery involving the entire proper hepatic artery including the emergence of the right hepatic, left hepatic and gastroduodenal artery (GDA), Figure 1
- Opened longitudinally
- GDA was ligated
- A bifurcated Dacron graft was anastomosed from the common hepatic artery and each limb into right and left hepatic artery, Figure 2

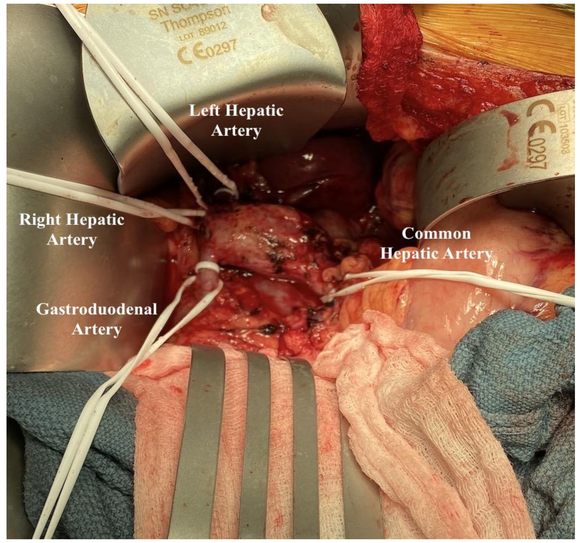

Figure 1: Hepatic artery aneurysm with arteries labeled adjacent to each vessel loop.

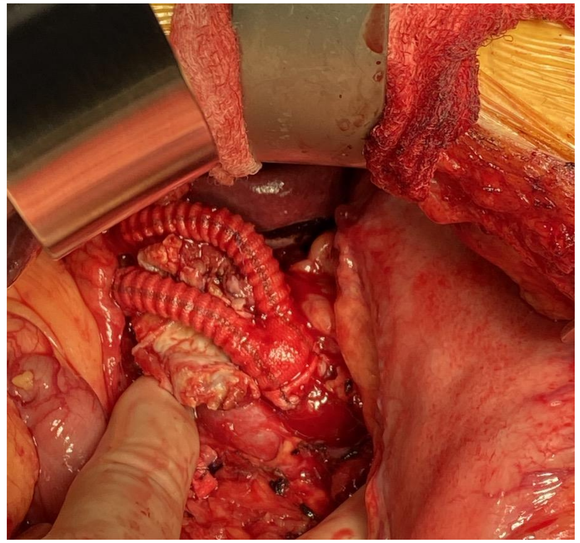

Figure 2:Dacron graft anastomosed to the common hepatic with each limb anastomosed to the right and left hepatic artery.

Post-operative Course

- Surgical Intensive Care unit for monitoring
  - SBP 120-170
- ASA 81mg qDay added
- Post-operative Day (POD) 1: AST 1028, ALT 792. Down trended until normal
- Return of bowel function POD 4. Discharged POD 5
- 6 month post-operative CT demonstrated graft patency

Discussion

- 2nd most common (MC) visceral artery aneurysm
- Majority identified incidentally
- MC etiology is atherosclerosis [4]
  - Evaluate for synchronous aneurysms
- First line is endovascular repair, not feasible in this case
- Treatment options:
  (avoid liver necrosis)
  - HAA proximal to GDA: ligation without revascularization
  - HAA distal to GDA: revascularization needed
  - Consider portal vein embolization for contralateral liver hemihypertrophy
- 24-29% major complication rate (graft/stent occlusion, arterial dissection, liver failure, abscess formation, cholecystitis and hemorrhage)[1,3]
- 86% Graft patency at 5 years [1]

Conclusion

Due to limited literature, treatment needs to be tailored to each patient. We present a successful repair of a HAA with complex anatomy.

References

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