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% mortality1,2
- 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 repair2,3
- 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

Conclusion

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

Discussion

- 2nd most common (MC) visceral artery aneurysm
- Majority identified incidentally
- MC etiology is atherosclerosis
  - 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 years1

References