

Portal hypertension due to hepatic arterioportal fistula

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INTRODUCTION

- Hepatic arterioportal fistulae (APF) are an abnormal connection between the hepatic artery and the portal vein.(1,2) It can lead to clinically significant portal hypertension.
- We present a case of hepatic APF presenting as an esophageal variceal bleeding

Case

- A-73-years old male with history of gun shot wound in 1973 status post exploratory laparoscopy who presented with hematemesis and melena
- The patient had a new-onset recurrent ascites that required multiple Paracentesis for few months.
- On presentations the patient had temperature (37.1 °C) BP: 118/55 mmHg Pulse:78 BPM, Resp: 17, SPO2: 99 % he had no stigmata of liver disease on physical exam.
- His laboratory findings showed AST 35 u/l, ALT 21 u/l, Alkaline phosphatase 252 u/l, Total bilirubin 0.8 mg/dl, platelet 348K/ μ L, Hemoglobin 9.5 g/dL and dropped to 7.6 g/dL within 24 hours.
- His chronic liver disease work-up was not revealing and he did not have evidence of end-stage liver disease. The patient underwent CT abdomen (Figure 1) that demonstrated arterioportal fistula involving right hepatic arterial territory with evidence of portal hypertension.

Hospital course

- The patient had an EGD (Esophagogastroduodenoscopy) that showed Severe hypertensive portal gastropathy was found in the entire stomach with mucosal hemorrhage. He underwent successful embolization of the right arterioportal fistula performed by interventional radiologist (Figure 2) . Subsequently the patient's melena resolved.

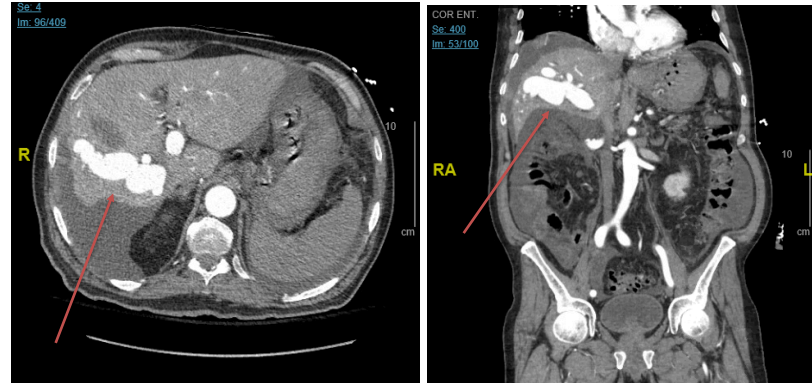


Figure 1: Coronal and Sagittal section of CT abdomen/pelvis W/WO contrast during arterial phase showing Hepatic arterioportal AV fistula

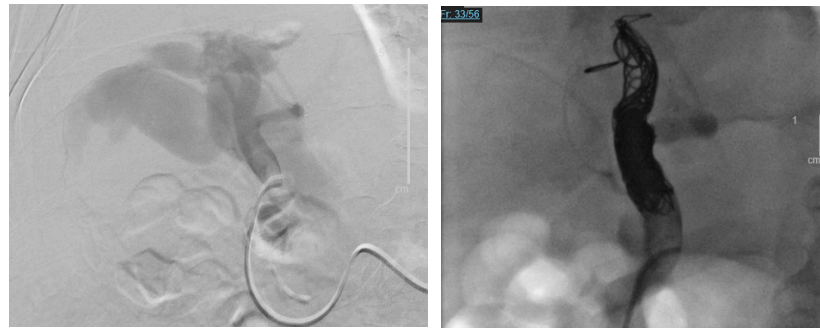


Figure 2: Mesenteric angiography and embolization of distal replaced right hepatic artery

Discussion

- Arterioportal fistula was first described by Goodhart in 1889 (3). Arterioportal fistula causes arterial blood to follow directly into the portal vein bypassing the hepatic sinusoids which can result in portal hypertension (4).
- The presenting symptoms commonly include gastrointestinal bleeding, ascites, congestive heart failure, abdominal pain, and diarrhea (4) However up to 25% of patients are asymptomatic (5) .
- Hepatic ARF can be spontaneous (such as secondary to congenital AV malformation), traumatic (e.g. penetrating gunshot injury such as our case) or iatrogenic (such as secondary to percutaneous liver biopsy, transjugular liver biopsy, Transjugular intrahepatic portosystemic shunt TIPS)(6).
- Liver biopsy is thought to be the most common cause of iatrogenic hepatic APF with some studies reporting the incidence to be up to 5.4%(7).
- Early diagnosis and recognition is important because hepatic APF is usually curable. Historically, the treatment of choice was surgical ligation of the hepatic artery, however with new advances in interventional radiology; currently the treatment of choice is endovascular transcatheter arterial embolization(8).

References

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