Off the Beaten Path: Chronic Pancreatitis-related Fibrosis as an Unexpected Cause of Pre-sinusoidal Portal Hypertension

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Background

- Chronic pancreatitis (CP) is a disease with several consequences, from endocrine to vascular.
- CP can lead to inflammatory fibrosis affecting the structure and function of adjacent anatomy.
- CP-related fibrosis can lead to portal hypertension (PHTN) and its downstream complications.
- We present a rare case of pre-sinusoidal PHTN leading to refractory ascites due to chronic pancreatitis-associated fibrosis.

Case Presentation

- 57M experiencing homelessness and a history of chronic alcohol-related pancreatitis, CBD stricture s/p stent, and polysubstance use disorder, presented with abdominal ascites refractory to paracentesis and diuretics.
- Serum biochemistry was unrevealing, without evidence of liver synthetic dysfunction or chronic kidney disease.
- TTE was unremarkable
- Peritoneal fluid studies showed transudative fluid with low protein and amylase consistent with portal hypertension.
- Prior contrast-enhanced CT and MR, and US imaging had demonstrated normal liver morphology and patent portal vein flow; however, while also showing the sequelae of chronic pancreatitis, including a persistent fibrosis extending from the pancreatic head to the porta hepatis, with extrinsic portal vein compression resulting in stenosis (figure 1).
- Prior biopsy of the pancreatic head mass was without malignant cytology, and IgG4 levels collected on this admission were normal.
- Wedged hepatic venous pressure measurements confirmed pre-sinusoidal PHTN and liver biopsy showed normal histologic liver architecture.
- TIPS was attempted, however, was failed due to significant periportal fibrosis.
- The patient was safely discharged with titration of diuretics and close outpatient follow-up.
- Unfortunately, the patient relapsed with substance abuse and subsequently was admitted to an outside hospital for a suicide attempt, where abdominal imaging demonstrated new portal vein and splenic vein thrombosis managed with anticoagulation.

Conclusion & Key Points

- Portal HTN associated with CP can be seen in splenic vein thrombosis, leading to **sinistral** portal HTN.
- When associated with **pre-sinusoidal** PHTN, it is usually due to portal vein thrombosis.
- CP can cause **pre-sinusoidal** PHTN because of periportal fibrosis
- Management of PHTN complications is are typically with endovascular shunts when appropriate, with options including TIPS and portal vein stenting.
- While complications of PHTN can be difficult to manage in nature, social factors must also be considered for patient-centered approaches.

Images

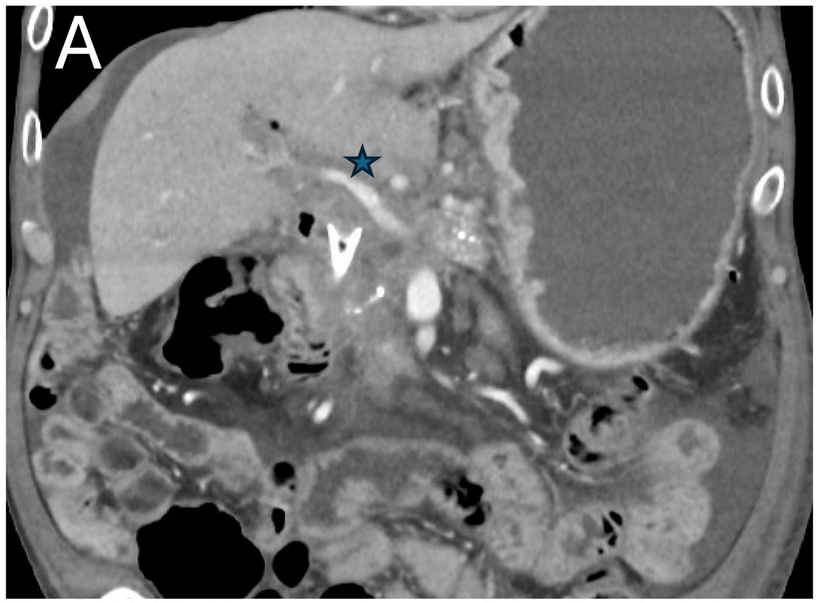

Figure 1A) CT with contrast in coronal view. Portal vein is seen (below star) with surrounding fibrotic tissue.

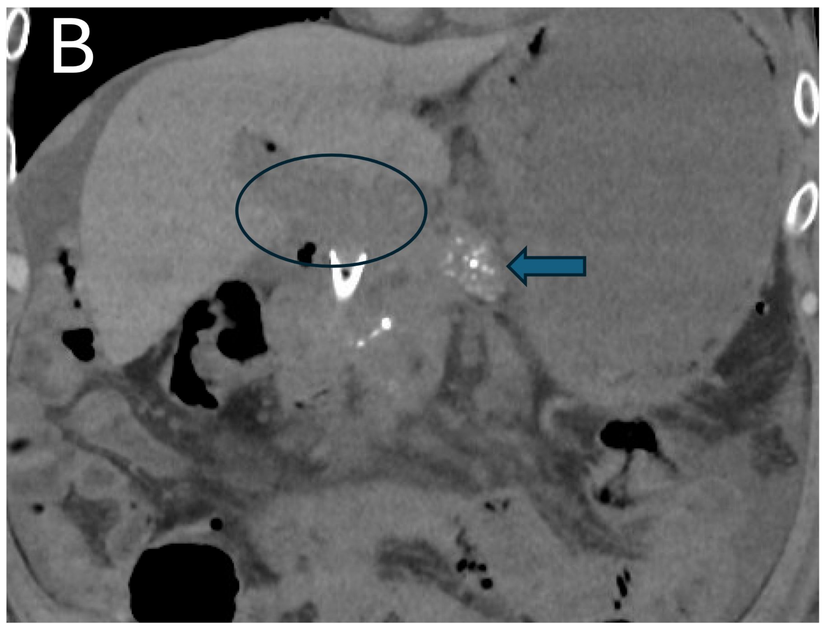

Figure 1B) CT without contrast in coronal view. Pancreatic calcifications (arrow) and area of fibrosis extending from pancreatic head (oval). Proximal portion of common bile duct stent also seen in A and B