Distal pancreatic necrosis after splenic angioembolization

[1]Rachel Yoo, MD, [3]Michael D. Gaziano, BS, [1]Vicente Cortes, MD, [2]Nikunj Chauhan, MD, [1]P. Kurt Bamberger, MD,
[1]Eugene Reilly, MD, [1]Thomas Geng, DO, [1]Christopher Butts, DO, [1]Adrian Ong, MD
[1]Division of Acute Care Surgery/Trauma, Department of Surgery, Reading Hospital, Tower Health System, West Reading, PA
[2]Department of Interventional Radiology, Reading Hospital, Tower Health System, West Reading, PA
[3]Drexel University College of Medicine, Philadelphia, PA

Introduction:

Splenic angioembolization (SAE) is frequently used in the management of splenic injuries but has a reported complication rate as high as 20%.[1]. Pancreatic necrosis is extremely rare [2]. We hereby report a case of pancreatic necrosis complicating SAE.

Clinical Course:

A 48-year-old male with a Grade IV splenic injury after a motorcycle crash was hemodynamically stable and underwent splenic angiography that showed no active bleeding or pseudoaneurysm. Given grade IV injury, proximal splenic angioembolization was performed. A week later, he developed sepsis and ileus. Follow up CT scan showed pancreatic necrosis. He was taken for exploration that showed infected distal pancreatic necrosis requiring splenectomy and distal pancreatectomy. Post operative complications include reoperations, fascial dehiscence, enteric leak, and intra-abdominal abscesses.

Figure 1. (Top) Angiography showing multifocal areas of hypo-vascularity but no contrast extravasation.
(Middle) Angiography after coil embolization of the proximal splenic artery.
(Bottom) Axial view of CT scan showing splenic infarct and pancreatic necrosis

Classic anatomy:

Splenic artery gives rise to dorsal pancreatic artery (DPA) proximally, great pancreatic artery (GPA) in the mid portion, caudal pancreatic artery (CPA) distally

Variations in blood supply to the distal pancreas[3]:

- DPA alone (50%)
- DPA and GPA (21%)
- GPA alone (16%)
- Transverse pancreatic artery (11%)
- Short branches of splenic artery (36%)

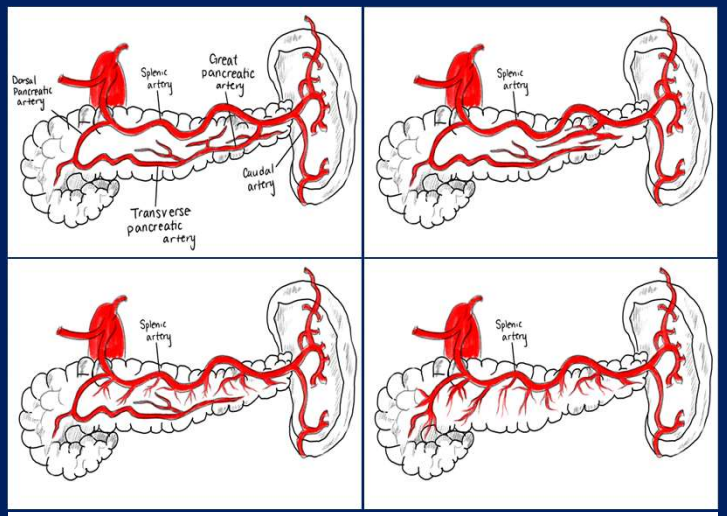

Figure 2. Illustrations of the variations in blood supply of the distal (body and tail) of the pancreas (Drawn by Rachel Yoo)

Discussion:

Hypothesized etiologies of pancreatic necrosis in this case report:

- Gelfoam slurry injection causing distal occlusion of short branches or GPA
- Embolization – by coils and slurry – was proximal to DPA

Splenic artery embolization risks include:

- Rebleeding
- Splenic infarction and abscess
- Distal pancreatic necrosis

Clinicians should be aware of this relatively rare complication when sepsis of unclear etiology develops after prophylactic splenic angioembolization.

References:
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