Image of the Month - March

Article: Therapeutic strategies for pseudoaneurysm following blunt liver and spleen injuries: a multicenter cohort study in the pediatric population

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Images:

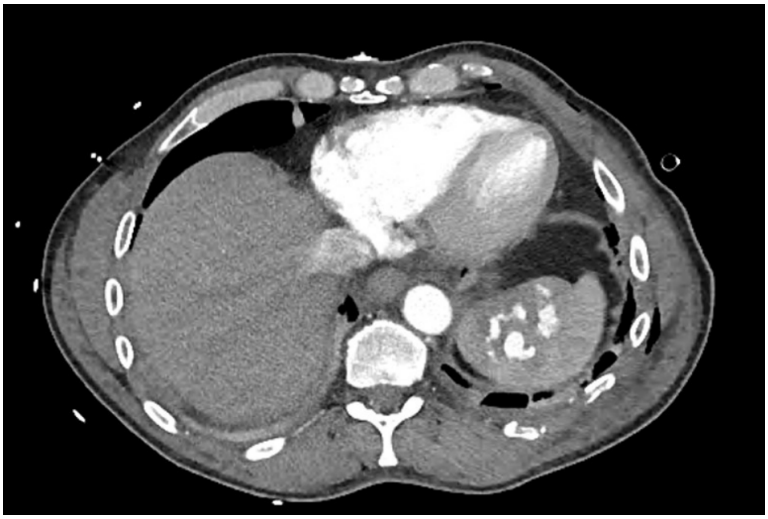

Figure 1. Interval CT demonstrating development of multiple pseudoaneurysms not present on admission CT performed 4 days prior.

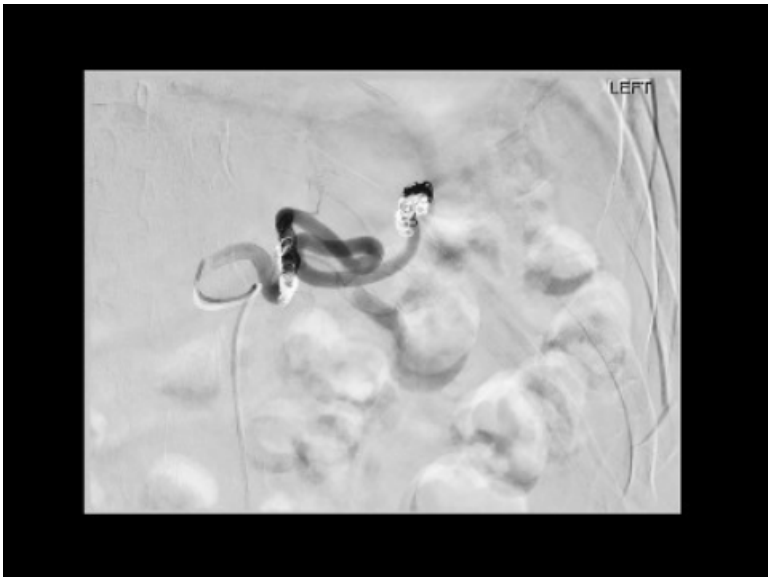

Figure 2. Successful coil embolization of the proximal splenic artery.

Legend:

Figure 1: Interval CT demonstrating development of multiple pseudoaneurysms not present on admission CT performed 4 days prior.

Figure 2: Successful coil embolization of the proximal splenic artery.

Case Presentation

A 15 year old male presented to hospital following a dirt bike crash. The patient was hemodynamically stable on presentation and workup revealed left sided rib fractures and a Grade III splenic laceration without evidence of contrast extravasation. He was admitted for nonoperative management NOM. During the first 72 hours of observation, the patient developed an ileus, progressive abdominal pain, and serial labs revealed a down trending hemoglobin. An interval CT was performed and demonstrated interval development of splenic pseudoaneurysms (Figure 1). Interventional Radiology (IR) was consulted and performed coil embolization of the proximal splenic artery with preservation of flow in the pancreatic magna artery (Figure 2).

Nonoperative management (NOM) is the standard of care for the vast majority of pediatric blunt spleen and liver injuries with a failure rate of ~5%. [1] Among patients with blunt splenic injury, a similar number of patients may develop a delayed pseudoaneurysm. The risk of delayed pseudoaneurysm still exists even after acute phase IR as an adjunct to NOM for blunt liver and spleen injuries, thereby necessitating ongoing observation. A recent multicenter cohort study found that 45% of patients experienced spontaneous resolution of pseudoaneurysm without any interventions. [2] Delayed splenectomy (DS) after a trial of NOM remains uncommon and the presence of contrast extravasation is a strong predictor of DS. [3]

References:

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2. Katsura M, Kondo Y, Yasuda H, Fukuma S, Matsushima K, Shiraishi A, Tsuchiya A, Kuriyama A, Gima M, Hayashida K, Miura N, Sugiura K, Toma K, Yasumatsu H, Kushimoto S; SHIPPs Study Group*. Therapeutic strategies for pseudoaneurysm following blunt liver and spleen injuries: a multicenter cohort study in the pediatric population. *J Trauma Acute Care Surg*. 2022 Oct 17. doi: 10.1097/TA.0000000000003813. Epub ahead of print. PMID: 36245083.

3. Zarzaur BL, Kozar R, Myers JG, Claridge JA, Scalea TM, Neideen TA, Maung AA, Alarcon L, Corcos A, Kerwin A, Coimbra R. The splenic injury outcomes trial: An American Association

for the Surgery of Trauma multi-institutional study. *J Trauma Acute Care Surg.* 2015 Sep;79(3):335-42.