Successful Treatment of Giant Splenic Artery Pseudoaneurysm Rupture with Transcatheter Splenic Artery Embolization

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Introduction

- Giant splenic artery pseudoaneurysm (GSAP) is defined as a splenic artery pseudoaneurysm exceeding 5 cm in diameter.
- To date, 53 cases of GSAP have been published in the peer-reviewed English literature. 25 of these cases were treated with transcatheter splenic artery embolization.
- Prior patients with GSAP have presented with various chief complaints. Gastrointestinal bleeding has occurred in cases complicated by fistula formation between the pseudoaneurysm and gastrointestinal structures. Hemothysis also occurred in a patient who developed a GSAP-airway communication through a diaphragmatic defect.
- Our case describes the finding of GSAP rupture in a patient who was brought to the emergency department in hemorrhagic shock.

Abdomen/Pelvis Computed Tomography

- Intraoperative Fluoroscopy Prior to Embolization

Splenic Artery Arteriogram and Coil Embolization

- Intraoperative Fluoroscopy Prior to Embolization

Intervention

Following hemodynamic stabilization via packed RBC transfusion and crystalloids, the patient underwent splenic artery arteriogram and coil embolization, which resulted in resolution of pseudoaneurysm filling and extravasation (Figures 3-5).

Day 2

The patient underwent exploratory laparotomy with hematoma evacuation and intra-abdominal washout.

Day 3

Following an uncomplicated post-operative course, the patient was given the Haemophilus influenzae type B, pneumococcal, and meningococcal vaccines and discharged.

Angiogram Following Embolization

Day 1

A 56-year-old Asian male with no significant past medical history developed severe abdominal pain at his home.

Vitals

- Temperature: 36.0°C
- Blood pressure: 71/44
- Pulse: 90 bpm
- Respiration: 18/minute
- Oxygen saturation: 95% on 2L/min

Lab Findings

- Normocytic
- Hemoglobin: 7.6 mg/dL
- Lactic acid: 11.0 mg/dL

Abdomen/Pelvis CT

Splenic artery pseudoaneurysm, with cross-sectional area 5.8 x 5.6 cm, and intra-abdominal fluid collections consistent with hemoperitoneum (Figures 1-2).

Hospital Course

Day 3

Angiogram following splenic artery coil embolization. Arrow pointing to contrast flow demonstrating continued perfusion of the distal splenic artery from collateral vascular supply. No evidence of persistent pseudoaneurysm filling or extravasation (former area of pseudoaneurysm outlined by dashed circle).

Summary

- Arterial pseudoaneurysm is an important differential in the diagnosis of abdominal pain, hemorrhagic shock, gastrointestinal blood loss, and hemothysis.
- There remains a need for further research to guide the use of prophylactic vaccinations and antibiotics in patients who have undergone splenic artery embolization.

References


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