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Aortic pseudoaneurysm - An unusual presentation

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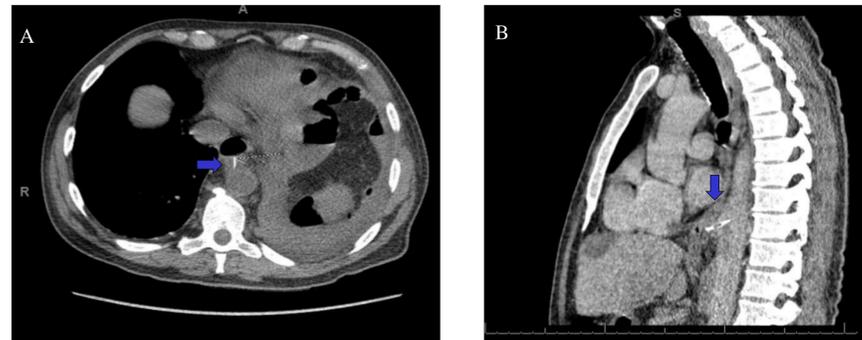


Introduction

- The esophagus is a frequent foreign body impaction site, but esophageal perforation and subsequent aortic pseudoaneurysms, and aorto-esophageal fistulas are very rare but potentially life-threatening complications¹. We present a case of foreign body ingestion, complicated by erosion into the aorta causing a mycotic aneurysm.

Case description

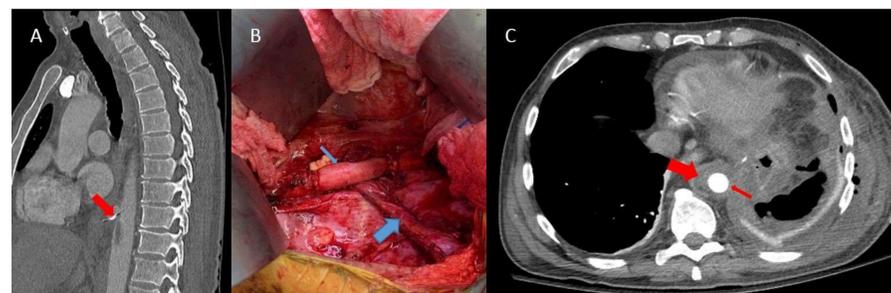
- A 60 year old male presented with abdominal pain, nausea, fatigue, fevers, one episode of Bright red blood per rectum. His medical history was significant for bipolar disorder and active smoking, no previous surgeries.
- Vitals and physical exam were unremarkable except for right upper quadrant tenderness.
- Pertinent laboratory workup:
 - Leukocytosis of $14 \times 10^9/L$
 - Acute kidney injury with creatinine of 1.54 mg/dL
- His blood cultures were positive for Gram positive cocci
- On imaging (CTA, MRI), he was found to have a
 - Splenic abscess
 - Liver abscess 3.3 cm
 - Thrombosis of the splenic vein, the main and right portal veins
 - Descending thoracic aortic pseudoaneurysm
 - Linear 3 cm foreign body anterior to the aortic wall
- Esophagogastroduodenoscopy – Mild Gastroenteritis
- Colonoscopy was unremarkable



Computed Tomography showing the metallic foreign body and pseudoaneurysm in the anterior aortic wall – Axial (A), Sagittal (B) .

Management

- Preoperatively, the patient was started on antibiotics, resuscitated, and received asplenia vaccines.
- A Multidisciplinary Operative intervention was planned.
- After establishing hemodynamic monitoring and spinal drain placement, the chest was entered through the 9th Intercostal space – at which time, an Intercostal flap was harvested. The hepatic abscess was drained, splenectomy was performed. At this time, Femoral-Femoral VA ECMO (extracorporeal membrane oxygenation) was established. Aortic mass was then excised, and cryograft was used for repair. An Esophagogastroduodenoscopy was performed which confirmed no mucosal tear or obvious perforation at the time of surgery. The previously harvested intercostal flap was buttressed between the esophagus and the aortic anastomosis. A jejunostomy tube was placed before concluding the surgery.
- The foreign body retrieved at the time was noted to be a small barbeque bristle.
- Intraoperative cultures grew *Enterococcus faecium* and *Candida glabrata* from the Splenic abscess.
- Blood cultures speciated as *Streptococcus intermedius*.
- Post operatively, the patient was optimized from a nutritional standpoint via Jejunostomy tube feeding, started on Xarelto for anticoagulation, completed a course of Daptomycin, Ceftriaxone and fluconazole for 6 weeks. On follow up, he was doing well.



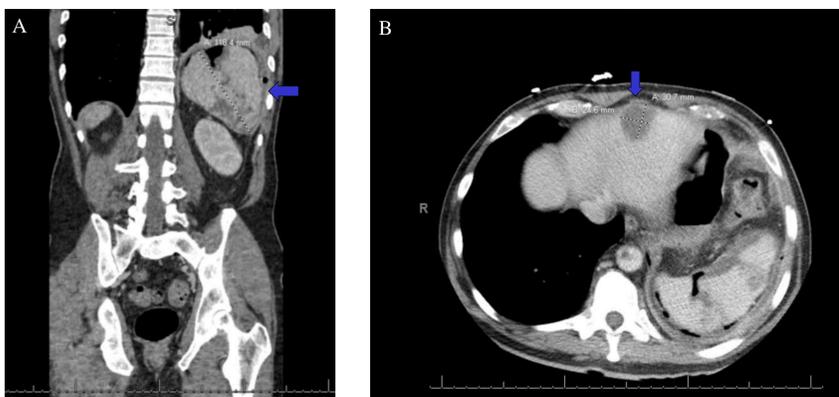
A. Metallic Foreign Body on pre-op CT Chest (Red arrow) A. Aortic cryograft (small arrow) and intercostal flap (large arrow) C. Post operative CTA showing aortic cryograft (small arrow) and intercostal flap (large arrow)

Discussion

- Accidental ingestion of foreign bodies is a frequent and often uncomplicated event. These, when retained can be sources of infection
- Aorto-esophageal fistula (AEF) is a rare entity. In 2394 reported ingestion of foreign bodies retained in the esophagus, Nandi et al.² described only two AEF. Lai et al.³ examined a consecutive series of 1338 foreign bodies, and none had an AEF.
- Patients presenting with an infected field involving the aortic wall after foreign body ingestion represent a critical subgroup. No guidelines exist, and the timing or modality of treatment to be found in literature is very different. Most cases are treated following local clinical experience, and for this reason, outcomes are very difficult to compare¹.
- Aortic pseudoaneurysm is very frequently associated with poor outcomes, with or without surgical repair. A high mortality should be anticipated. Broad-spectrum antibiotic therapy should be instituted early to minimize the effects of the mediastinitis that inevitably hampers survival.
- Early diagnosis and accurate localization of the lesion can contribute to better prognosis. CT examination is a simple and effective method to visualize the pseudoaneurysm and its adjuvant structures⁴.
- A multidisciplinary approach is key, with medical optimization and surgical management which involves excision and reconstruction or more recently, endovascular approaches.

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A. Computed Tomography showing a Splenic abscess (arrow). B. Computed Tomography showing a Hepatic abscess (arrow).