



Baton Rouge General
Internal Medicine Residency Program

Primary Aortoduodenal Fistula as a Complication of Mycotic Aortitis

Ashley Capace MD, Jeremy Polman DO MS MBA, Karthik Reddy MD

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Introduction

- Mycotic aortitis is an uncommon diagnosis that is almost universally fatal if not diagnosed and treated quickly.
- Primary aortoenteral fistula is a rare, equally life-threatening complication of mycotic aortitis due to localized inflammation of the aorta and the anatomical proximity of the bowel.
- Here, we present the case of a 54 year old male with mycotic aortitis who subsequently was found to have a primary aortoduodenal fistula on open repair.

Case Description

- A 54-year-old male presents with a 3 month history of vague abdominal pain. He was recently diagnosed with an unspecified abdominal mass, suspected to be malignancy after a PET scan revealed a hypermetabolic retroperitoneal mass [A].
- A biopsy was planned at a later date, however, the patient had acute worsening abdominal pain and presented to the emergency department.
- An abdominal angiogram revealed an irregular saccular infrarenal abdominal aortic aneurysm with a mural thrombus and periaortic fat stranding with mural enhancement consistent with aortitis [B, C]. These findings were in the same location as the previously noted hypermetabolic retroperitoneal mass, concerning for aortitis and not malignancy.
- Blood cultures returned Methicillin sensitive *Staphylococcus aureus* bacteremia. Ertapenem was initiated for broad spectrum coverage of both MSSA and intraabdominal pathogens.
- Vascular surgery was consulted and recommended open aneurysm repair and debridement. The patient subsequently underwent the procedure, where he was found to have a primary aortoduodenal fistula (PADF) with extensive spillage of duodenal contents. The area was debrided and the fistula repaired.
- Unfortunately, the patient had an extended hospital stay, including a significant amount of time in the intensive care unit with an open abdomen.
- Ultimately the abdomen was closed and the patient was discharged with a peripherally inserted central catheter for continued intravenous antibiotic therapy. He had outpatient follow up with vascular surgery for definitive aortic aneurysm repair and with infectious disease for management of bacteremia and mycotic aortitis.

Figures

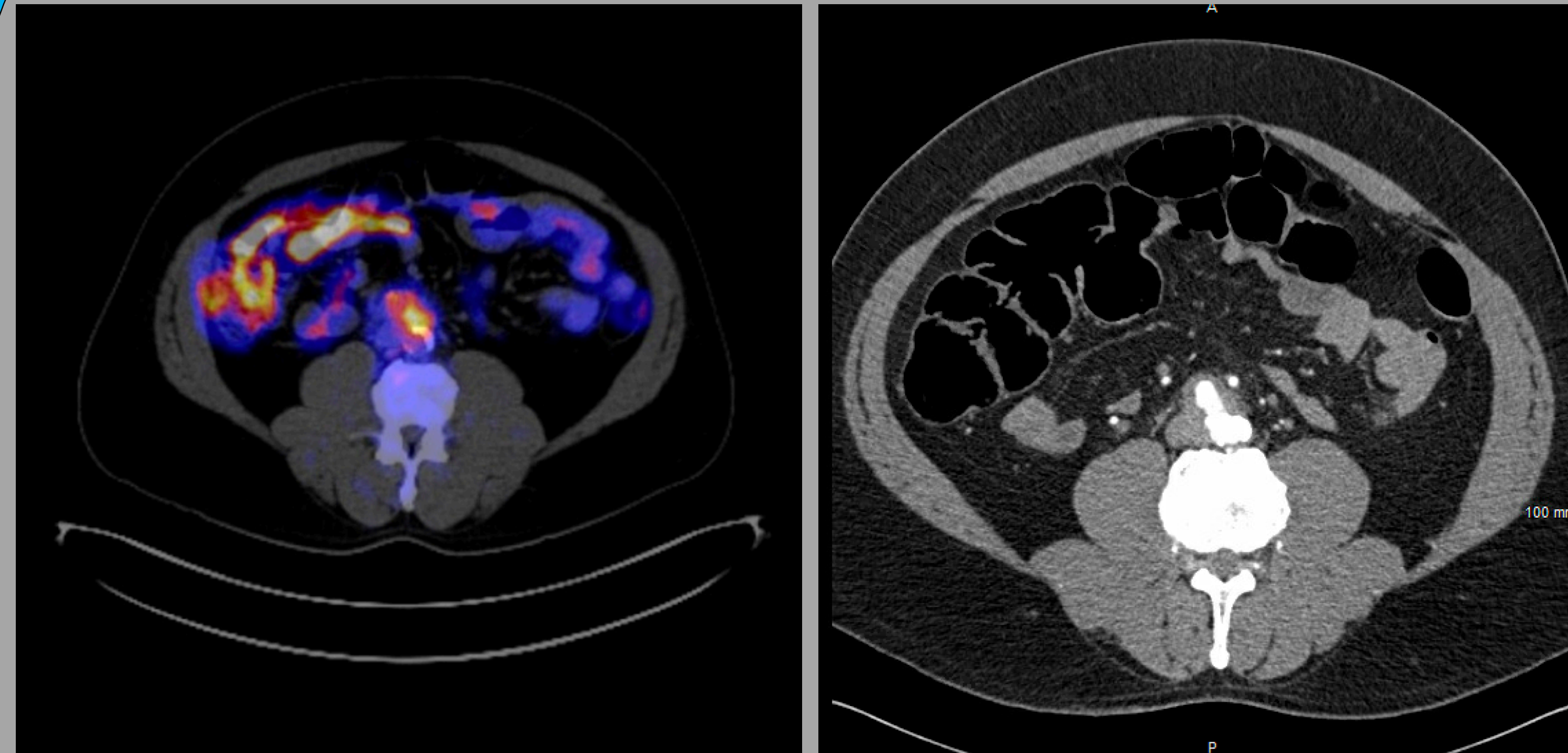


Figure A, B: Transverse slice from PET scan and CT abdomen/pelvis revealing 23mm x 38mm abdominal aortic aneurysm.

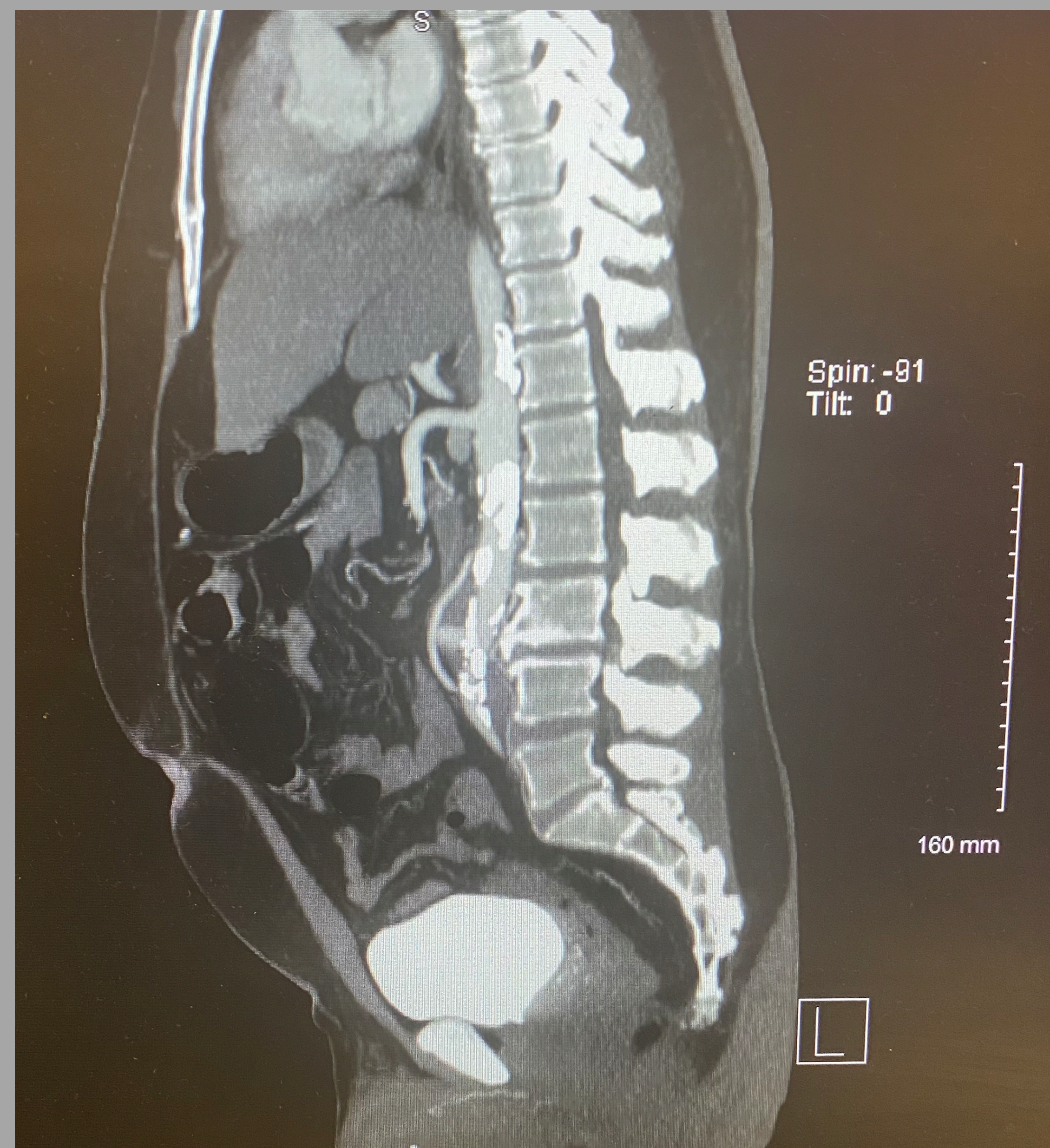


Figure C: Sagittal slice from CT abdomen/pelvis revealing aortic aneurysm with thrombus.

Discussion

- Mycotic aortitis arises from seeding of bacteria via the vasa vasorum through a segment of the artery with a pre-existing pathology, most commonly atherosclerosis or aneurysm.
- Mycotic aortitis has exceedingly poor prognosis due to a high rate of rupture.
- One dangerous complication of mycotic aortitis is aortoenteral fistula formation, which are classified as either primary, in the absence of previous aortic aneurysm surgery, or secondary, with previous aortic aneurysm surgery. Primary is much more rare, with an incidence rate of 0.04-0.07% per year [1].
- The duodenum is the most common segment of bowel involved (72% of cases) due to its proximity to the aorta [2].
- CT scan with contrast is the most sensitive test at 60% but more than 65% are not diagnosed until exploratory laparotomy [3, 4].
- Treatment is primarily performed by open aortic reconstruction with extensive debridement and antibiotics in the postoperative period, especially in the case of gross intraabdominal contamination [5].
- Antibiotics should be continued for at least 4 to 6 weeks if blood or intraoperative cultures are positive and may be continued for a more prolonged time, even lifelong, in some cases [3].

Conclusion

Quickly recognizing mycotic aortitis, initiating treatment, and undergoing open surgical intervention with repair of PADF in our patient may have prevented his mortality. Thus, it is important to keep in mind the rare, life-threatening diagnosis of aortoenteral fistula.

References

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