

Endovascular Repair of Mycotic Thoracic Aortic Aneurysm

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Disclosure

Speaker name:

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I do not have any potential conflict of interest

Background

- Conventional repair of mycotic thoracic aortic aneurysm:
 - Thoracotomy
 - Resection
 - Debridement
 - Anatomical/Extra-anatomical revascularization
- Early mortality 20% to 40%

Case study

- 72 years old
- Female
- Past medical history of breast cancer and thyroidectomy

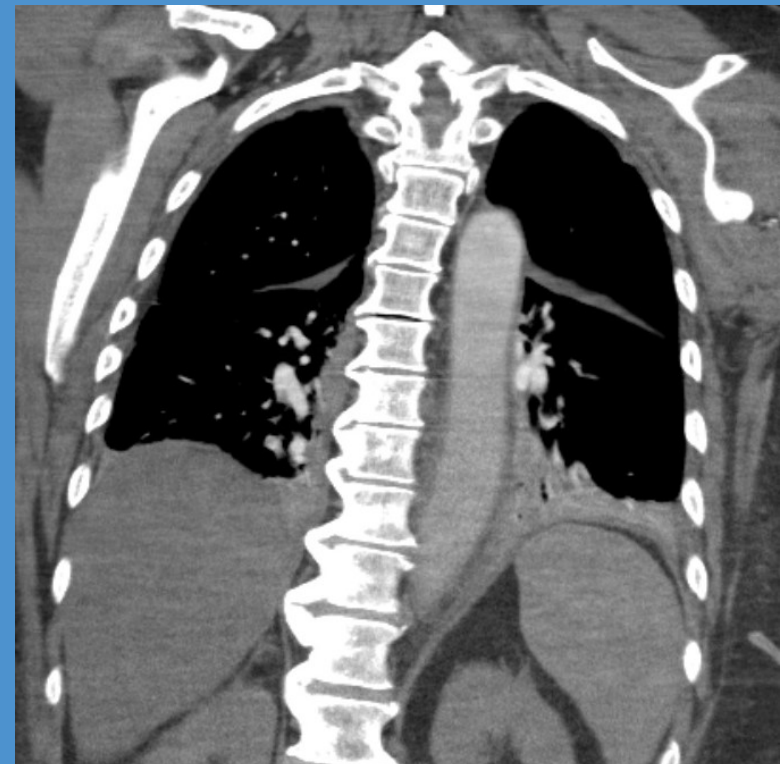
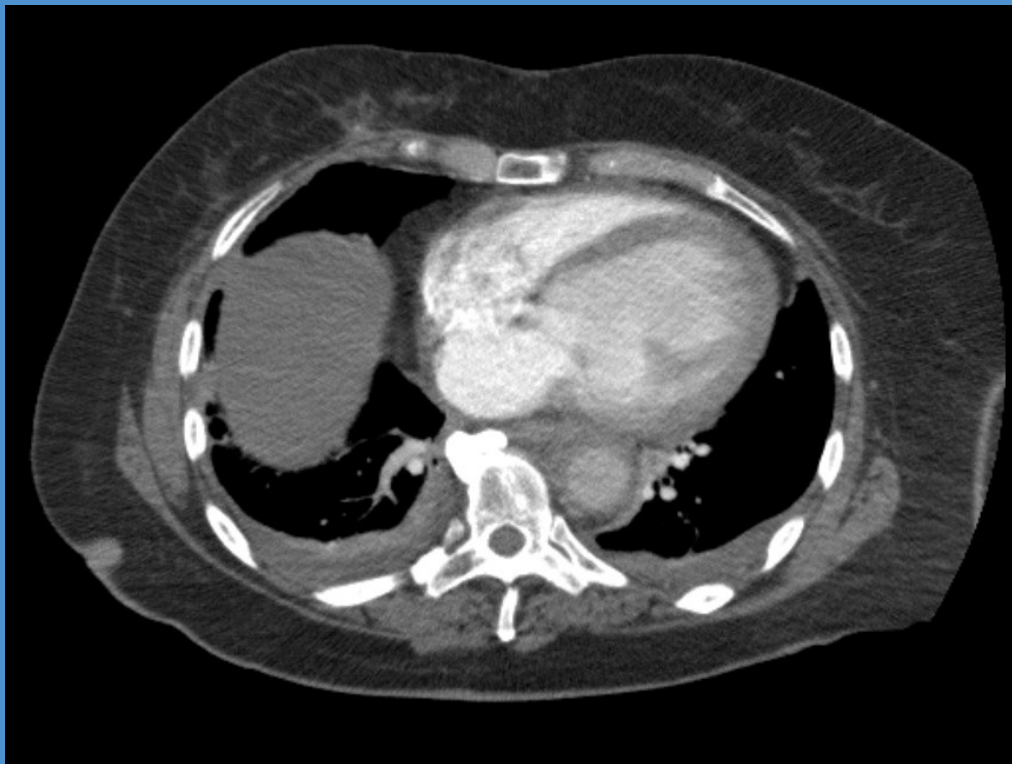
- Day 1: Presented with pyrexia (39°C) , cough and abdominal pain.
- Tachycardia (140 bpm).
- WCC 31.2, CRP 350
- No acute abdominal pathology on CT abdomen and pelvis.

- Initially treated as a possible community acquired pneumonia/sepsis
? cause by admitting medical team (piperacillin/tazobactam)

Day 3:

Blood cultures grew group A β -haemolytic streptococcus. Antibiotics switched to amoxicillin.

CTPA to exclude PE



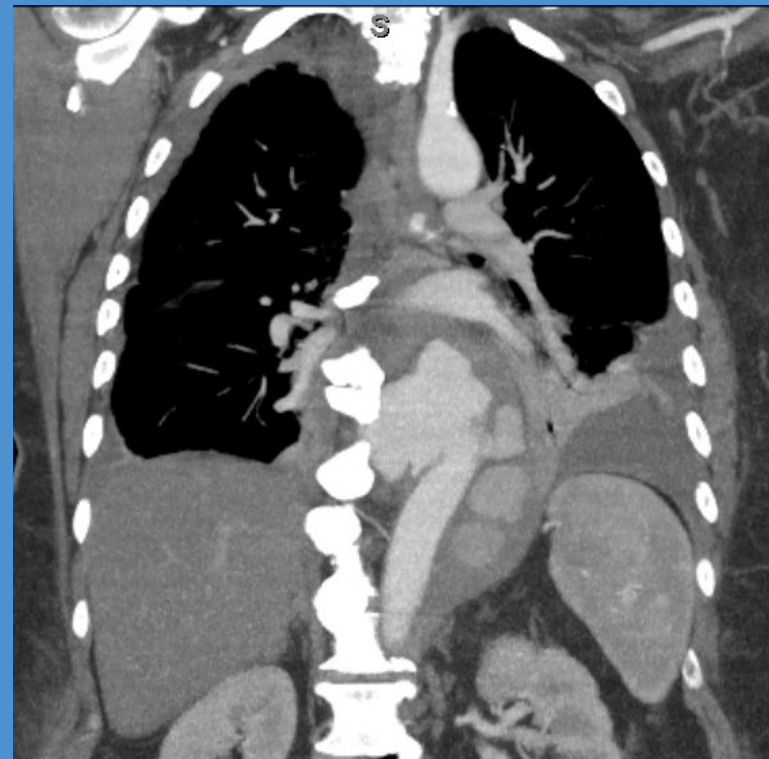
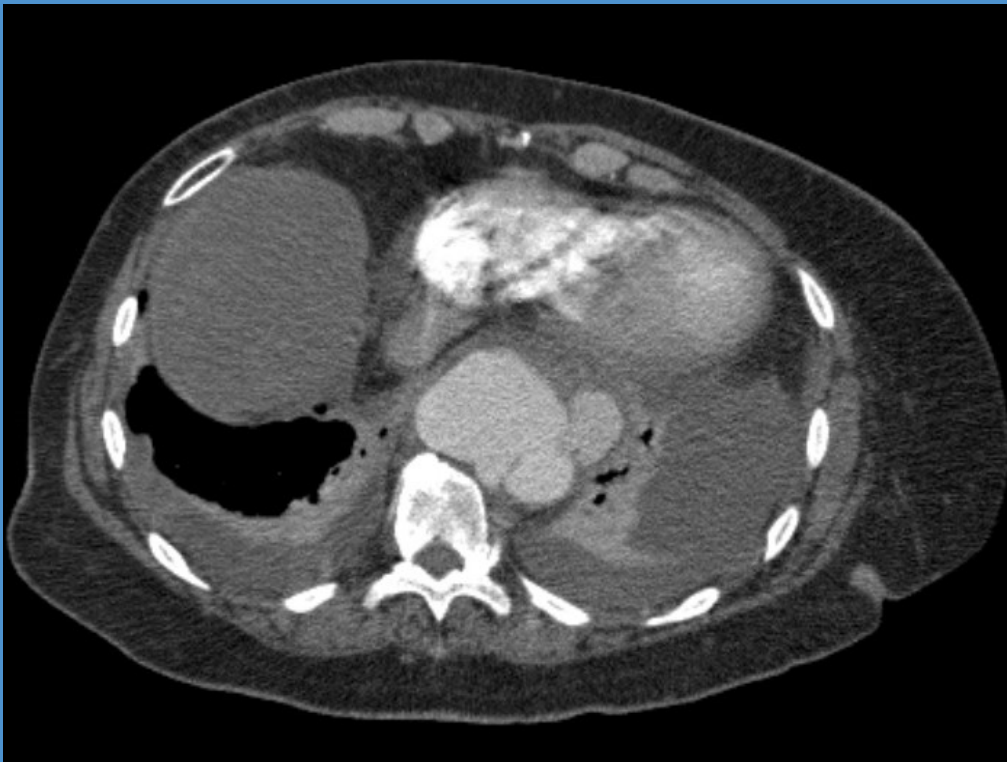
Day 10:

Chest pain. Seen by cardiology. Not acute coronary syndrome

Day 12:

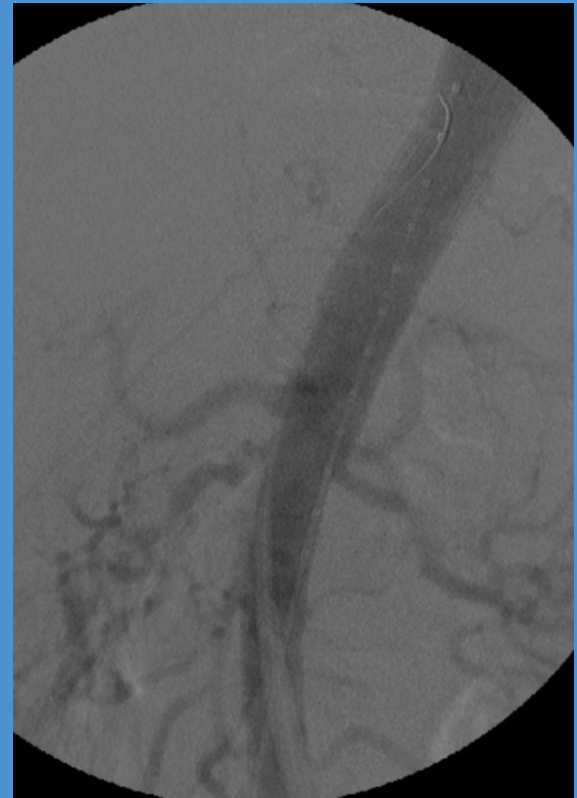
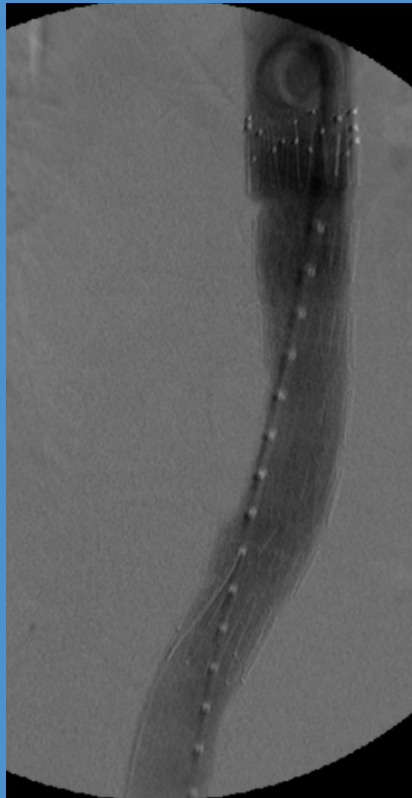
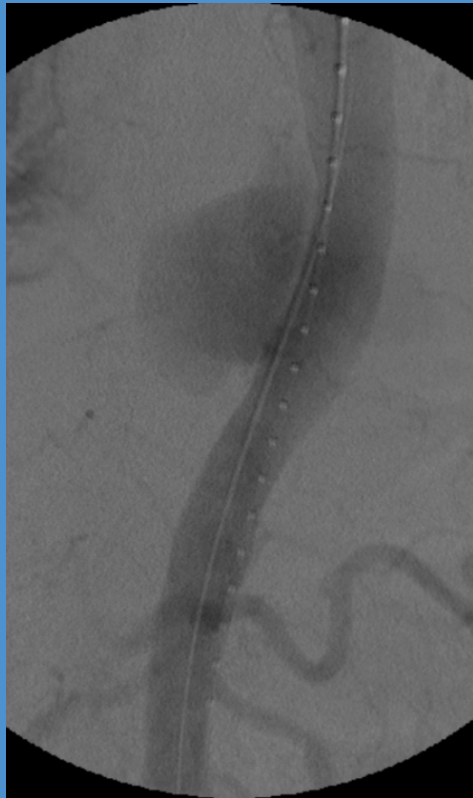
Echo: severely impaired LVEF and ? Type B aortic dissection

CT aorta demonstrating ruptured thoracic aneurysm



Day 13:

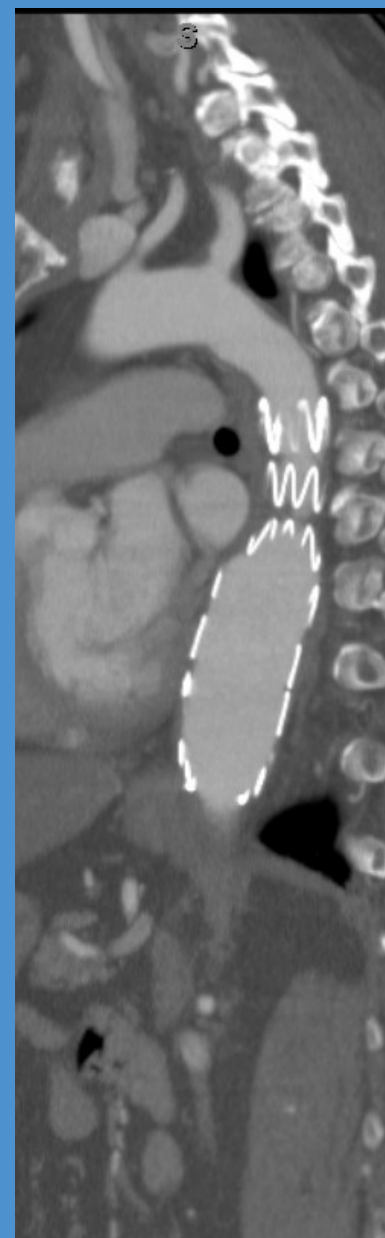
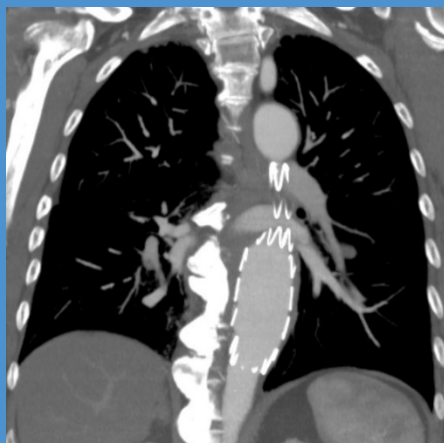
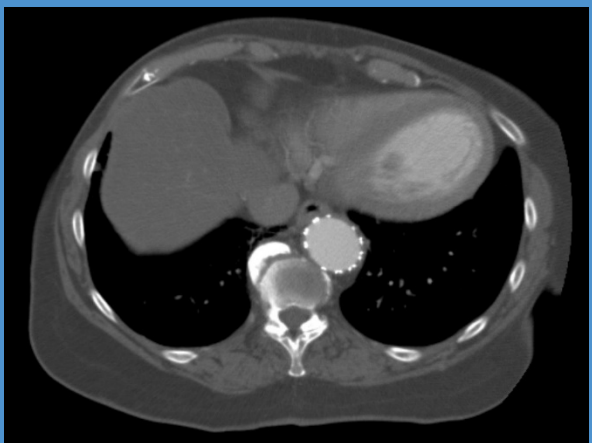
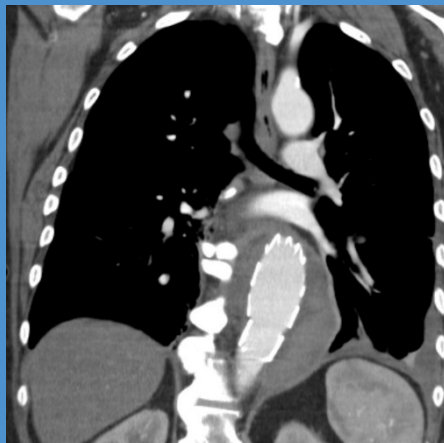
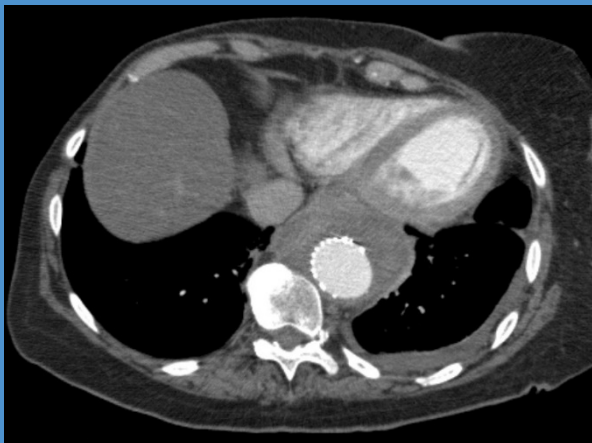
- TEVAR: under local anesthetic and sedation.
- Single Zenith TX2 32-140
- Spinal drain



Result

- Postoperative:
 - Bilateral superficial groin wound infections
 - Otherwise uneventful recovery
 - Discharged day 8 on oral antibiotics
- Follow up:
 - Alive and well 2 years and 4 months after surgery
 - No clinical, blood or radiological evidence of infection
 - Remains on life long antibiotics

Aortic remodeling



Literature: mycotic aortic aneurysms

- Historically open repair and radical debridement combined with bypass is considered definitive repair for mycotic aneurysms.
 - High morbidity and mortality (In hospital mortality 36%, 5 year 65%)
- Single center and multicenter (n=123 patients) observational studies suggest that endovascular therapy is:
 - Safe (9% 1 month mortality)
 - Durable (59% 10 year mortality, only 19% infection related death)

(Muller et al. J Vasc Surg 2001)

Sorelius et al. Circulation 2014

Literature: other infected aortic pathology

Use of endovascular approach increasingly common:

- Aortobronchial fistula (Canaud and Ozdemir et al. Ann Thorac Surg 2013) (n=134)
 - 21.4% all cause mortality at 17.4 months
 - Aortic related mortality 14.3%
- Aortooesophageal fistula (Canaud and Ozdemir et al. J Vasc Surg 2014) (n=72)
 - 40.2% all cause mortality at 7.4 months
 - aortic related mortality 33.3%
 - Outcomes worse in patients that:
 - Not bridged
 - Antibiotics stopped

Conclusions

- Endovascular repair increases the treatment options in the management of mycotic aneurysms/infected aortic cases.
 - Definitive
 - Bridging therapy
- Radical surgery and debridement is not required in all patients.