Endovascular Repair of Mycotic Thoracic Aortic Aneurysm

Baris Ata Ozdemir
Magdy Moawad

St. Peter’s Hospital
Chertsey
United Kingdom
Disclosure

Speaker name:

Baris Ata Ozdemir

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 ß-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%)
    (Muller et al. J Vasc Surg 2001)

- 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)
  Sorelius et al. Circulation 2014
Literature: other infected aortic pathology

Use of endovascular approach increasingly common:

  - 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.