Prosthetic valve endocarditis due to propionibacterium acnes


Erasmus Medical Center
Rotterdam, the Netherlands
One of our patients

- 30-year old man
- History of congenital heart disease
- 18-months ago he underwent a Bentall procedure
- Now presents with a cold pale left hallux

**Admitted for further testing**

- CT
- Echocardiography
- Blood cultures
Echocardiography
Blood cultures

- Propionibacterium Acnes
Background

- P. Acnes is a common skin bacterium
  - Causes acne
  - Gram positive rod
  - Forms biofilm
  - A slow grower and considered to be normal flora
  - Can survive in anaerobic conditions for 8 months

- Often seen as contaminant of blood cultures

- Only 75 cases of PVE with P. acnes known in literature
Results

- 13 patients fulfilling modified Duke criteria (total 2700 patients spanning 7 years)
  - All men
  - Aortic valve replacement in 12 patients, mitral valve replacement in 1 patient
- Index surgery 5 to 135 months ago
- Presenting with:
  - Heart failure (85% NYHA III/IV)
  - Valvular dehiscence (92%)
  - 2 patients with emboli
- All but one requiring re-do surgery
Surgery

- Valvular dehiscence in 92%
- Crypt and forming of true aneurysms in 75%
- Longer extracorporeal circulation and cross clamp times
- Placement of Bentall in 6 patients
- 2 patients requiring mechanical support
Perioperative findings in our patient
Antibiotics

- Based on this study:
  - Penicilline 12 million units per day
  - Combined with rifampicin (if mechanical valve or Bentall implanted)
  - Duration 6 weeks
  - Antibiotic resistance of P. Acnes currently not an issue
Follow-up

- Average follow-up 36 months (range: 1-71 months)
- 1 patient died (late mortality >1 year due to pneumonia)
- No recurrent endocarditis
- No false aneurysm formation
- 2 patients with new (limited) paravalvular leakage
- Improvement of left ventricular function in 50% of patients who showed decreased function.
Conclusions and take-home message

- Prosthetic valve and new paravalvular leak → consider P. acnes
- Incubate blood cultures for 14 days if PVE in differential diagnosis
- Most patients require re-do surgery
- Use of mechanical valves and valved conduits (Bentall) in these patients did not create on-going endocarditis in this group.
- Patients in this group showed good survival with improved ventricular function

As did our patient.