Unusual Cases of Endocarditis

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Case 1

• 46 yo female with depression and h/o ETOH found down by family
• In ED found to have toxic levels of aspirin and ethylene glycol
• Emergent HD, Intubated, transferred to UMass
• Failed to wake up

• Hypoxic brain injury
• Pronounced brain dead
• Organ donation work-up
TEE

Blood Cultures negative
Tissue Cultures negative

2) Mitral Valve Vegetations:
   
   - Valvular tissue with surface fibrous vegetations with scattered groups of acute inflammatory cells, see note-1.
   - Underlying myocardium with focal hypertrophic changes.

Note-1: Acute inflammatory cells are present in fibrous vegetation and are not seen in endocardium or myocardium. The differential diagnosis includes non-bacterial thrombotic endocarditis and infective endocarditis. Gram stain for bacteria and GMS and PAS stains for fungal organisms are negative. Correlation with microbiologic culture studies and clinical findings is recommended.
Marantic Endocarditis or Nonbacterial Thrombotic Endocarditis

- Noninfectious valvular vegetations
- Left sided valves > Right, Mitral > Aortic
- 1.2% of all autopsy patients (0.3-9.3% of autopsy patients with malignancy)
- Male=Female
- Across all ages
- Documented in many settings
  - Advanced malignancy (solid/hematologic)
  - Chronic diseases (tuberculosis, AIDS)
  - CTD, autoimmune diseases, hypercoagulable state
  - SLE
  - Trauma (indwelling catheter, snake bite, overdose, XRT)

Pathogenesis

- Unknown
- Endothelial damage and expose of underlying collagen
- Implicated factors
  - Immune complexes
  - Hypoxia
  - Hypercoagulability
  - Carcinomatosis

| Differences between NBTE and IE |
|-------------------------------|---|---|
| Features               | NBTE | IE |
| Fever                  |     | + |
| Cardiac murmur         |     | + |
| Leukocytosis           |     | + |
| CRP                    | –/+ | + |
| Blood cultures/ serology |     |  + |
| aPL                    | –/+ | – |
| Echo                   | Vegetations are typically small, <1 cm in diameter, broad based and irregular in shape. Valve abscess and rupture uncommon | Mobile mass, variable size localized on the auricular surface of the aortic ventricular valves or aortic surface of aortic valve. Valve abscess and rupture are common |
| DWI MRI scan of the head | The stroke pattern is of multiple, small, and medium or large disseminated lesions | The stroke pattern is of either a single lesion, territorial infarction, or multiple punctate disseminated |

Clinical Manifestations

- Peripheral stigmata of infective endocarditis rare
  - Vasculitis phenomena (splinter hemorrhages, Roth spots, glomerulonephritis) common
- Recurrent emboli occur up to 50% of patients
  - Brain, kidney, spleen, mesenteric bed, extremities
- Unlikely to cause significant valvular insufficiency due to destruction of the valve leaflets or stenosis due to size of vegetation.

Case 2

- 78 year old man
- Developed discitis and Staph. Bacteremia
- 2 months later developed fever and murmur
- Diagnosed with endocarditis, treated, and sent to rehab facility
- Returned to hospital in acute pulmonary edema

Cases 3 and 4

- 71 year old man with new murmur
- Bacterial cultures negative
- 78 year old man referred for coronary arteriogram; loud murmur heard by fellow on pre-cath assessment (new)
Cases 3 and 4

- Both patients went to AVR
- Both found to have torn AV cusps
- Both patients had valves cultured
- Neither had evidence for endocarditis by blood culture or by pathologic/microbiologic study

Case 5

- 40 yo female
- Presents with stroke
- Had viral syndrome 3 weeks prior, treated with antibiotics
- No fevers
- Prior history of rheumatic fever years ago in India
Pathology Report

MICROSCOPIC:
Valvular tissue with thickened fibrotic leaflets with mild chronic inflammation and focal neovascularization. In view of the patient’s clinical history the findings may represent postinflammatory (rheumatic) mitral valve disease.

CULTURE:
No bacterial DNA detected with 16S rDNA primer set.