

## INTRODUCTION

- Infective endocarditis carries significant morbidity and mortality, with 32% of patients developing heart failure, and 17% developing a stroke.
- Culture-negative endocarditis is often subacute, and commonly caused by the HACEK organisms.
- *Cardiobacterium hominis* is an important cause of culture-negative endocarditis, often requiring both medical and surgical management for cure.

## CASE PRESENTATION

A 59-year-old trans woman with multiple myeloma, s/p bioprosthetic mitral and aortic valve replacement secondary to *Abiotrophia* endocarditis, presented to the ED with 3 months of progressive fatigue, shortness of breath, and malaise.

- Reported increased fatigue, sleeping 10-12 hours per day, 30 pounds of weight loss
- ROS without fevers, chills, palpitations, abdominal pain, or headache
- Physical Exam within normal limits
- CMP showed mild transaminitis, CRP 68
- Chest radiograph with no pathology
- CT angiography without evidence for PE
- Discharged without intervention
- Blood cultures drawn at initial ED visit returned positive for GNR at 2 days of growth (2/2 bottles).
- Called back to ED, where she received 2 grams of cefepime and was admitted for workup of GNR bacteremia.

## INITIAL DATA AND MANAGEMENT

- Vital Signs: 36.9C, 112/71, HR 68, RR 20
- Physical Exam:
  - +1 pitting edema to mid-shin
  - Diminished extremity sensation bilaterally to ankles

6.3	9.5	137	132	106	24	95
	29		4.5	18	1.2	

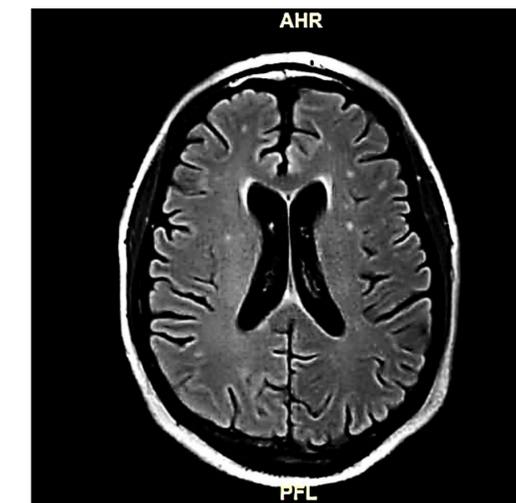
- UA with normal GU flora
- Other Labs:
  - Calcium – 8.0
  - ALT – 62, AST – 35

## CULTURE-NEGATIVE ENDOCARDITIS

- HACEK endocarditis - *Haemophilus* spp, *Aggregatibacter* spp, *Cardiobacterium hominis*, *Eikenella corrodens*, and *Kingella* spp.
- Accounts for <5% of infective endocarditis, but decreased mortality vs other causes of IE (4% vs. 18%).
- Culture-negative endocarditis is:
  - More likely to cause skin findings (32% vs. 20%)
  - More likely to cause strokes (25% vs. 17%)
  - Less likely to induce heart failure (15% vs. 30%)
- *Cardiobacterium hominis* – most common risk factor is history of cardiac disease (60%).
- *C. hominis* cure rate was 93%, with 43% requiring surgery for resolution.
  - 22% of patients are found to have embolic CNS lesions.



Thickened prosthetic aortic valve leaflets



- Imaging Studies:
  - TEE – 1.7 cm multilobed vegetation
  - CT AP – Large splenic infarct
  - MRI Brain – Multiple small infarcts, likely septic emboli

## CASE CONCLUSION

- Hospital Day 10 – Blood cultures grow *Cardiobacterium hominis*.
- Hospital Day 11 – open aortic valve replacement was performed, finding vegetations on all leaflets with annular abscess.
- Received IV ceftriaxone while inpatient, then discharged with home infusion orders.

## REFERENCES

1. Salminen MK, Rautelin H, Tynkkynen S, et al. Lactobacillus bacteremia, species identification, and antimicrobial susceptibility of 85 blood isolates. Clin Infect Dis. 2006;42(5):e35-44.
2. Doron S, Snyderman DR. Risk and safety of probiotics. Clin Infect Dis. 2015;60 Suppl 2:S129-34.
3. Chambers ST, Murdoch D, Morris A, et al. HACEK infective endocarditis: characteristics and outcomes from a large, multi-national cohort. PLoS ONE. 2013;8(5):e63181.
4. Asai N, Sakanashi D, Suematsu H, et al. Infective endocarditis caused by *Cardiobacterium hominis* endocarditis: A case report and review of the literature. J Infect Chemother. 2019;25(8):626-629.
5. Murdoch DR, Corey GR, Hoen B, et al. Clinical presentation, etiology, and outcome of infective endocarditis in the 21st century: the International Collaboration on Endocarditis-Prospective Cohort Study. Arch Intern Med. 2009 Mar 9;169(5):463-73