

Bacterial Endocarditis Masquerading as a Gout Flare

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Background

- Infective endocarditis (IE) is a microbial infection of the valvular and nonvalvular endothelium of the heart. The classification of IE as acute or subacute depends on the clinical presentation, progression of untreated disease and pathogenic virulence.
- Conventionally acute bacterial endocarditis causes rapid development of severe symptoms while subacute bacterial endocarditis (SBE) is characteristic of more insidious onset of symptoms and progression of the disease.
- Clinical manifestations are broad including cardiac, neurologic, septic emboli, and metastatic infection. Up to 50 percent of patients present with cardiac complications and up to 40 percent of patients present with neurological complications prior to definitive diagnosis.
- We present an interesting patient with a presumed gout flare exhibiting complications of infective endocarditis.

Case Presentation

A 78-year-old male presents to the ED with confusion and complaints of multiple joint pains. Over the last two weeks prior to hospitalization the patient had a variety of joint pains, including severe left ankle pain, which improved initially with oral prednisone but then worsened over the last 5 days.

- **Physical Exam:** Heart rate of 119 BPM, Temp 39.5 degrees C. He was awake and alert with diminished attention and concentration. He had left ankle erythema, swelling, and limited joint mobility. Laboratory findings were significant for:

White Blood Count 9.4 k/mm ³	ESR 55 mm/hr	Lactic Acid Level 1.8 mmol/L
Procalcitonin 7.18ng/mL (<0.50ng/mL)	CRP 370.7mg/L	Uric Acid Level 3.9mg/dL

- **Hospital Course:** The patient was empirically treated for meningoencephalitis with Cefepime, Acyclovir, Ampicillin and Doxycycline. A lumbar puncture, as well as a left ankle arthrocentesis given the concern for septic arthritis, were performed:

Synovial fluid		CSF	
Appearance	Cloudy	WBC	11
WBC	28910	RBC	438
RBC	450000	Glucose	16
Neutrophils	40	Total Protein	165



Figure 1 – Gram stain of synovial fluid from a septic joint showing gram + cocci in clusters

- Both blood cultures and synovial fluid culture of the ankle grew MSSA, at which point antibiotics were deescalated to Oxacillin to treat for bacteremia and septic arthritis.
- MRI of the brain (**Figure 2**) and lumbar spine (**Figure 3**) demonstrated multiple lacunar infarcts and discitis, respectively. TEE showed 1.3cm vegetation on aortic valve but no abscess. A repeat TEE on day 14 of hospitalization showed no evidence of resolution; therefore the decision was made to perform a valve replacement.
- The patient underwent a successful aortic valve replacement and was discharged to acute rehabilitation to complete 6 weeks of antibiotic therapy.

Images

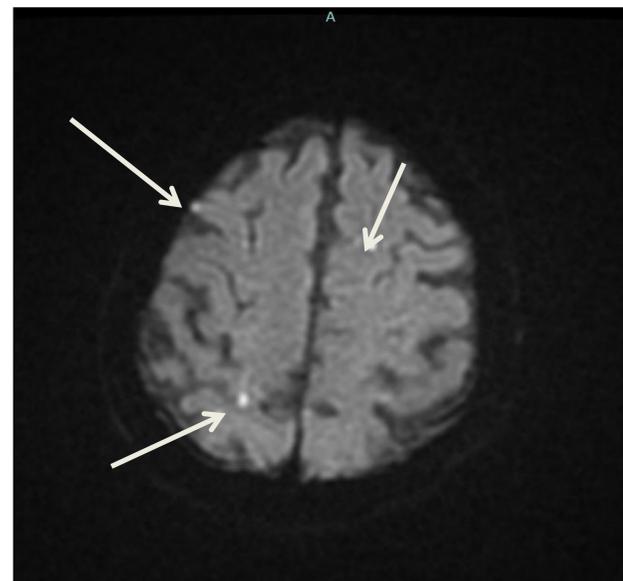


Figure 2 – MRI of the brain showing septic emboli



Figure 3 – MRI of the lumbar spine showing discitis



Figure 4 – A picture of a patient with a septic ankle



Figure 5 – TEE of a patient with an aortic valve vegetation

Discussion

- This patient presented with rare complications of SBE including septic arthritis, acute stroke, and discitis.
- Initially believed to have a gout flare the patient was treated with steroids which are contraindicated in patients with septic arthritis.
- However, due to timely initiation of broad-spectrum antibiotics and input from a multidisciplinary team the patient had a favorable outcome.
- As this case illustrates, detection of the full spectrum of clinical manifestations of IE complications requires a careful, focused initial evaluation as well as serial follow-up examinations.

References

1. Cunha, B., Gill, M. and Lazar, J., 1996. ACUTE INFECTIVE ENDOCARDITIS. *Infectious Disease Clinics of North America*, 10(4), pp.811-834
2. Good AE, Hague JM, Kauffman CA. Streptococcal Endocarditis Initially Seen as Septic Arthritis. *Arch Intern Med*. 1978;138(5):805-806. doi:10.1001/archinte.1978.03630290085029