Subacute Bacterial Endocarditis: The Great Imitator

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Introduction

The presentation of bacterial endocarditis varies greatly from patient to patient. The most common pathogens are *Streptococcus Viridans*, which generally leads to subacute endocarditis, while *Staphylococcus Aureus* leads to acute endocarditis.1 Subacute bacterial endocarditis can follow an indolent course, which can delay diagnosis, increasing the risk of morbidity and mortality. We report a case of a patient with subacute infective endocarditis (IE) who presented with profound anemia and multiple septic emboli.

Objective

This case highlights the importance of maintaining a broad differential while evaluating patients with profound anemia, and otherwise no signs or symptoms of acute occult blood loss.

Case Presentation

A 66-year-old male presented to the Emergency Department at the request of his primary care doctor for further work up of acute anemia with hemoglobin of 7.6 noted on routine labs.

- Endorsed 6 months of generalized weakness, night sweats, fevers, decreased appetite, a 50-pound weight loss and severe neuropathy in bilateral lower and upper extremities. Denied hematochezia, hematemesis, or melena.

Past Medical History

- Coronary artery disease s/p percutaneous coronary intervention with drug eluting stent to the ostial LAD
- Aortic aneurysm s/p graft repair in 2019
- Severe aortic insufficiency s/p bioprosthetic aortic valve replacement in 2019 with subsequent aortic root repair

Physical Exam

- Afebrile and hemodynamically stable
- Systolic murmur auscultated
- Otherwise benign exam

Pertinent Lab Findings

- Decreased iron (26 ug/dL)
- Decreased iron binding capacity (218 ug/dL)
- Ferritin markedly elevated 1,792 ng/mL
- Soluble transferrin receptor level 1.43 mg/L

CT Chest/ Abdomen/ Pelvis Findings

- Splenomegaly and multiple splenic infarcts. Significant lymphadenopathy.

Clinical Course

Day 1

- Presented with Hgb 7.6 on admission

Day 2

- Concern for GI source; patient underwent EGD/ Colonoscopy. No acute source of bleed. Internal and external hemorrhoids.

Day 3

- TTE showing increased velocities across the aortic prosthesis were noted, in addition to a prolonged acceleration time suggestive of obstruction

- Possible cardioembolic phenomenon

- Differential broadened to include malignancy

Day 4

- ESR CRP markedly elevated

Day 5

- TEE showing severe stenosis of the bioprosthetic aortic valve with either layering thrombus or vegetation on leaflets

- Shared decision made to start heparin for thrombotic emboli

Day 6

- Blood and Fungal cultures drawn

Day 7

- Febrile to 38.3, BCx cultures grew *Streptococcus Viridans*

- Ceftriaxone started, systemic anticoagulation discontinued

- Additional history obtained for extensive dental work almost six months prior, coinciding with the start of nonspecific B symptoms

- Chart review showed patient had not received antibiotic prophylaxis prior to procedures

- Final diagnosis- Subacute Bacterial Endocarditis

Day 9

- Patient opted for surgical management

- Dental evaluation for extraction of three decayed teeth

Day 19

- Successfully underwent redo sternotomy/aortic root replacement, as well as replacement of aortic bioprosthetic valve

- Discharged on six weeks of IV ceftriaxone

Day 22

- Post surgical TEE showed bio prosthesis without evidence of obstruction or regurgitation

Discussion

- Mortality rates associated with infective endocarditis remain high, some studies showing six-month mortality rates of almost 25%.2

- Presenting symptoms in subacute IE are variable, including chest pain, abdominal pain, fever, chills, paresthesias, weight loss, and night sweats.3

- In a patient who presents with acute anemia, a GI source is most often suspected. It is important to note that this patient reported no recent hematochezia, melena, or hematemesis. Though a negative EGD and colonoscopy does not rule out a slow gastrointestinal bleed (possible AVM), the presence of ACD broadened the differential.

- Infection, autoimmune diseases, malignancy, as well as chronic kidney disease can present with anemic of chronic inflammation.4

- Malignancy was excluded, though it is important to note that an infectious work up was not completed until 6 days into the patient’s stay, when there was higher suspicion for infective endocarditis based off of TEE findings.

- In a patient who otherwise presented afebrile, with no leukocytosis, anchoring bias likely resulted causing the team to search for GI sources of anemia rather than infectious sources.5

Conclusions

- Value in maintaining a very broad differential when presented with a patient reporting nonspecific symptoms

- Cognitive bias commonly occurs in clinical medicine

- In a patient with nonspecific symptoms, a high index of suspicion for infectious sources is required for prompt diagnosis and treatment of subacute bacterial endocarditis.

References