

Severe sepsis with E.coli bacteremia in patient underlying Strongyloidiasis infection

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Abstract

Introduction:

Strongyloidiasis is caused by infection with a helminth *Strongyloides stercoralis*. This organism is capable of completing its life cycle entirely within the human host. Therefore, chronic asymptomatic infection can be sustained for decades, and clinical manifestations can occur long after the initial infection. In addition, among patients with subclinical infection who subsequently become immunosuppressed, larval reproduction can lead to disseminated infection. Migration of filariform larvae during autoinfection may facilitate entry of enteric organisms into the systemic circulation. Clinically, this may manifest as extra intestinal bacterial infections such as pneumonia, meningitis, sepsis or more; therefore, presence of fever and/or hemodynamic instability should prompt evaluation for systemic bacterial infection. In such cases bacterial cultures from the blood, sputum, spinal fluid or other sites may demonstrate enteric flora.

Case presentation:

This patient is a 74-year-old man who presented to the emergency room on June 17, 2020 with history of unresponsiveness, confusion, apparently found obtunded, and unresponsive to painful stimuli. On presentation, he was febrile, tachycardic, tachypneic and hypotensive. Initial work-up showed WBC of 2.1, platelets 27 and elevated lactate of 10.4. Because of septic encephalopathy, he was admitted to ICU and blood cultures were obtained. He was placed on broad-spectrum antibiotics with IV vancomycin and Zosyn. Later, the blood culture came positive for *E. coli* and patient was switched to ceftriaxone.

Review of his medical records back from 2008 showed positive serology for *Strongyloides* and significant eosinophilia. But for no clear reason, he was not treated for the infection at that time.

Working Diagnosis:

Patient was in the military and he was stationed in some part of the world for many years. While in service he started having severe abdominal complaints and the area where he was stationed is well-known for its endemicity of intestinal parasitosis including strongyloidiasis. Work-up done for intestinal parasitosis showed positive serology for *Strongyloides*. Also, he had developed liver cirrhosis with splenomegaly and ascites for which he had paracentesis. He also had history of gallbladder surgery. Persistent disseminated *Strongyloides* is well known to cause all the above conditions as secondary complications occurs over the years in addition to the classic well-documented *E. coli* bacteremia with worm carrying the *E. coli* to everywhere in the body, to brain, lungs during its migration from the GI tract.

Management:

Patient was managed in ICU settings initially with broad-spectrum antibiotics later on ceftriaxone after blood culture showed *E. coli* bacteremia. Due to constraint related to insurance, Ivermectin on a 4 -dosage regimen was chosen instead: 200 micro grams per KG daily for 2 days on 8 and 9 July 2020 and repeat after 14 days and thereafter 18 mg per orally monthly for 6 months starting 9 August 2020. Will be monitoring CBC and CMP monthly till the end of treatment.

Learning Objectives

Clinicians should always look for underlying strongyloidiasis in patients with serious infections due to enteric organisms without readily identifiable source in the presence or absence of peripheral eosinophilia.