A Rare Presentation of Sepsis of Unknown Origin in Elderly Patient with Dementia

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Introduction

MSSA bacteremia is an infection caused by *Staphylococcus aureus* and is a common complication of pneumonia or an infection involving skin, soft tissue, bone or joints.[1] Risk factors include intravenous drug use, indwelling prosthetic devices, diabetes mellitus, and dialysis dependence.[2] MSSA bacteremia is diagnosed with blood cultures and treated with intravenous antibiotics. However, it can be particularly challenging to find the inciting factor if there is limited history available. In this case, we describe a patient with dementia who had a vague clinical presentation and was diagnosed with MSSA bacteremia secondary to ischial osteomyelitis. This case highlights the inherent challenges in diagnosing patients with dementia, and we will discuss important considerations when managing this patient population.

Case Summary

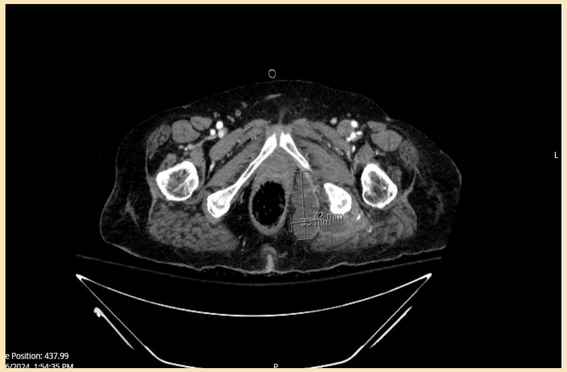
77-year-old female with a past medical history of severe dementia, hypertension, urinary incontinence, fecal incontinence, breast cancer and anxiety presented to the ER for evaluation of urticaria, generalized weakness and back pain. History was obtained from the patient's daughter and husband due to dementia. Physical exam revealed urticaria of the face, chest, abdomen and extremities. Labs revealed leukocytosis and lactic acidosis. Blood cultures revealed MSSA bacteremia which was initially thought to be secondary to urticaria and pruritus. TTE and TEE were negative for infective endocarditis. IV vancomycin was started, and ID was consulted. However, leukocytosis persisted despite treatment, and patient did not show clinical improvement. Further discussion with the family members revealed that the patient had been experiencing sacral back pain. Focused physical exam on hospital day 4 revealed a sacral wound, which did not appear to be superficially infected. Repeat blood cultures remained positive for MSSA, and vancomycin was changed to cefazolin. An MRI of the pelvic and lumbar region was unsuccessfully attempted due to the patient's restlessness. Instead, a CT pelvis was done which revealed a multicompartment rim-enhancing lesion within the left ischiorectal fossa, abutting the left ischial tuberosity and extending inferiorly to the left posterior medial thigh musculature. These findings were concerning for perirectal abscess. The patient underwent incision and drainage, and it was discovered that the abscess had bone involvement. Intraoperative wound culture was positive for *S. aureus*. Patient was diagnosed with ischial osteomyelitis, which was determined to be the source of MSSA bacteremia. Cefazolin was continued, and metronidazole and daptomycin were added with clinical improvement. Patient was discharged on hospital day 15 with a 6-week course of cefazolin and 2-week course of metronidazole.

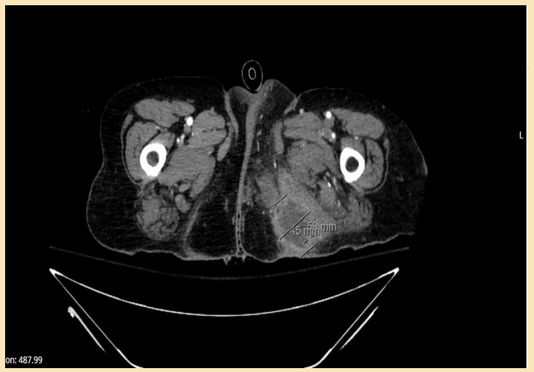
Discussion

This case demonstrates the challenges that can occur in evaluating patients with cognitive disorders which can result in the inability to provide history or undergo certain diagnostic tests. In these cases, obtaining history from caregivers, having a broad differential list, and using other diagnostic resources personalized for the patient can be vital in diagnosis and treatment. It may also be helpful to utilize the Pain Assessment in Advanced Dementia (PAINAD) scale, which is an observational tool that can help determine the severity of pain in patients with dementia.[3] Furthermore, when determining the etiology of MSSA bacteremia in an elderly patient with dementia, it is important to consider any sacral wounds or pressure ulcers that could be a potential source of infection, especially in the setting of urinary or fecal incontinence. It may be prudent to proceed with imaging studies if there is strong suspicion for the wound being the inciting factor for MSSA bacteremia.

Objectives

- Emphasize the importance of a thorough evaluation of patients with dementia by utilizing available resources
- Educate on the importance of having a broad differential diagnoses to detect the underlying disease in patients with dementia





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