Role of PET/CT in Evaluating for Occult Gram-Positive Bacteremia

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A 67-year-old man with a history of ascending thoracic aneurysm, asthma, and schizophrenia presented with tachypnea after cardiac catheterization. Exam showed increased work of breathing. Blood cultures grew methicillin-susceptible *Staphylococcus aureus* (MSSA), which was treated with intravenous cefazolin. Despite treatment, the patient remained persistently bacteremic. An exhaustive search for a source proved unfruitful; notably, a transthoracic echocardiogram (TTE) showed no evidence of endocarditis. A whole-

body PET/CT was then conducted to evaluate for occult sources. This study showed a T2 vertebrae with osteomyelitis (red arrow), right glenohumeral edema with soft tissue infection (yellow arrows), and a 4.8-cm infrarenal mycotic aortic aneurysm (white arrows).

Although PET/CT is not commonly part of the diagnostic algorithm for bacteremia, it has been shown to be valuable in certain cases. In a 2010 study of PET/CT in occult gram-positive bacteremia, this modality was the first to delineate the infectious foci in 30 % of the study patients.¹ The same study group, based at Radboud University, also performed a cost-effectiveness analysis that showed that routine use of PET/CT in gram-positive bacteremia had an acceptable cost per death prevented in the Netherlands.² This case illustrates the utility of PET/CT as a second-line diagnostic tool in the management of patients with occult bacteremia and fever.³

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Compliance with Ethical Standards:

Conflict of Interest: The authors declare that there are no conflicts of interest.

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