

The Forgotten Valve, Isolated Pulmonic Valve Endocarditis, a Rare Case Report

Abhishiek Setia*, Gaurav Aggarwal and Will Grist

Department of Internal Medicine, Jersey City Medical Center, Jersey City, New Jersey, 07302, USA

***Corresponding author**

Abhishiek Setia, Department of Internal Medicine Jersey City Medical Center Jersey City, New Jersey, 07302, USA

Submitted: 30 Apr 2020; Accepted: 05 May 2020; Published: 13 May 2020

Introduction

Of the four cardiac valves, the pulmonic valve is the least suspected in most pathologies when one thinks of endocarditis, pulmonary valve is hardly considered. We can call it a “forgotten valve”. Isolated pulmonary valve endocarditis has less than 100 reported cases [1]. We present a case of isolated pulmonary valve endocarditis in a 27-year-old male with past medical history of IVDA, who presented to the hospital with sudden onset of chest pain and shortness of breath.

Case Report

Patient is a 27-year-old male with past medical history of ADHD, IVDA that presented to the hospital with sudden onset chest pain and shortness of breath for 3 days. Chest pain was left sided, sharp in nature, and 8/10 in intensity. He endorsed subjective fever and chills. He denied cough, trauma, travel history, or tick bites. Last IV heroin use was 10 days ago? On admission, patient was afebrile, normotensive (102/67), tachycardic at 154, tachypnic at 25, And saturating 100% on room air. On physical exam, patient was ill appearing, in acute respiratory distress. A loud S2 was heard on cardiac exam, and lungs were clear. White count elevated at 14.5, Lactic acid 2.2, first troponin 0.04. Transthoracic echocardiogram showed normal ejection fraction, no gross valvular lesions, and no effusions.

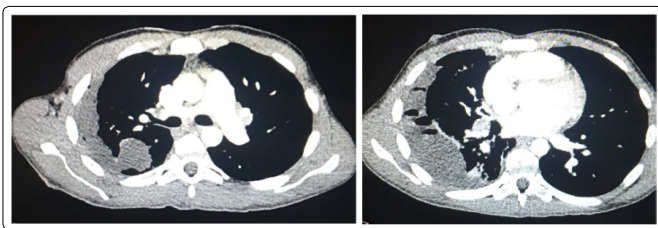


Figure 1 & 2: Multiple cavitary pulmonary nodules most compatible with infectious process such as septic emboli, mycobacterial or fungal infection, or less likely vasculitis. Partially loculated right hydro pneumothorax. Significant splenomegaly. No central or large segmental pulmonary emboli.

CT angiogram chest, figure 1 and 2, showed multiple cavitary pulmonary nodules. Infectious workup was sent and Empiric antibiotics, Vancomycin and Zosyn, started. Blood cultures were positive for MSSA and patient spiked persistent high-grade fevers.

Antibiotics switched to nafcillin. Remainder of infectious workup was negative. Transesophageal echocardiogram performed due to high-grade fevers, positive blood cultures, and a loud S2 heard on the physical exam. It showed a 1-1.5 cm significant pulmonic valve vegetation, seen in Figure 3, consistent with endocarditis. CT surgery performed pulmonary valve replacement, evacuation of right empyema, and decortication. Patient received Nafcillin 1g IV every 4 hours for a total of 6 weeks. Patient also started on aspirin, Amiodarone 200 mg BID and Lopressor 12.5 BID. Patient was discharged to sub-acute rehab after 22 days of admission.

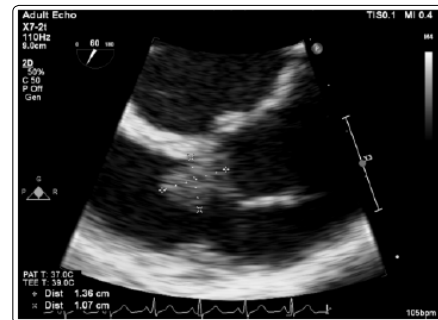


Figure 3: Shows trans-esophagus echocardiogram showing 1-1.5 cm significant pulmonic valve vegetation, consistent with Endocarditis in setting of MSSA bacteremia

Discussion

The incidence of right sided infective endocarditis ranges from 5 to 10% out of which pulmonary valve infective endocarditis is even less [2]. Pulmonary valve murmurs are best heard in the left infraclavicular area or lower along the left sternal edge to the third intercostal space. There are a few main disposition factors for pulmonic valve endocarditis out of which IV drug abuse is the most common, isolated pulmonary valve endocarditis has also been identified in patients undergoing chronic hemodialysis [3, 4]. The most common pathogen affecting an isolated pulmonary valve endocarditis is staph aureus [4]. When identifying pulmonary valve pathology the preferred method is transesophageal echogram, as transthoracic echocardiogram fails to identify pulmonary valve abnormalities. This was seen in our case as the transthoracic echocardiogram was negative for any valvular pathologies, and the transesophageal echocardiogram showed a 1-1.5 cm vegetation on the pulmonic valve [5]. The role of surgery in isolated pulmonic valve endocarditis

is unclear. There have been reports of not replacing the infected pulmonary valve. Surgery is indicated if there is right ventricular outflow tract [6]. Other report showed 9 out of 15 patients with right-sided infective endocarditis showed reconstruction without valve replacement [7]. Surgical options include debridement of the infected area, (done in our case), vegetation excision with either valve preservation or valve repair or valve replacement native pulmonary valve [7]. When suspecting infective endocarditis, with negative transthoracic echocardiogram a suspicion for pulmonic valve endocarditis should be in the differential diagnosis and a transesophageal echocardiogram should be considered. The purpose of our case report to bring the light to a rare yet interesting diagnosis of isolated pulmonary valve endocarditis. Moving forward the findings in this case can help to identify rare cases of isolated pulmonic valve endocarditis.

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