

Case Report**Multi-Valvular Endocarditis with Underlying Rheumatic Heart Disease: A Case Report**Sahadeb Prasad Dhungana*¹, Sanjib Kumar Sharma²¹Cardiology Unit, Nobel Medical College Teaching Hospital, Biratnagar, Nepal²Department of Internal Medicine, B.P. Koirala Institute of Health Sciences, Dharan, NepalArticle Received: 16th May, 2020; Accepted: 25th June, 2021; Published: 30th June, 2021DOI: <http://dx.doi.org/10.3126/jonmc.v10i1.37986>**Abstract**

The clinical picture of infective endocarditis (IE) varies from the asymptomatic stage for a long duration to an acute fulminant course. A high index of suspicion is necessary whenever a patient presents with nonspecific symptoms and some peripheral clinical signs with a cardiac murmur. We report a case of sub-acute IE involving multiple left and right side cardiac valves with underlying rheumatic heart disease (RHD).

Keywords: *Echocardiography, Infective Endocarditis, Rheumatic Heart disease*


Introduction

IE is characterized by microbial infection of the endothelial surface of the heart. In classic cases, they present with fever, chills, a new or changing murmur, and bacteremia. It can appear in an atypical manner and pose a diagnostic challenge. High-risk groups for IE include intravenous drug users, the elderly, the presence of congenital heart diseases or prosthetic heart valves, and patients on hemodialysis. [1] We describe a case of multiple valve endocarditis with underlying RHD in which the diagnosis was made after echocardiography for evaluation of dyspnea and fatigability.

Case Presentation

A 61 years old male presented with worsening fatigability and dyspnea for two months. Physical examination revealed pandigital clubbing, down and outward displacement of apical impul-

se, pansystolic murmur in mitral and tricuspid area, and early diastolic murmur in the aortic area. Investigations showed serum hemoglobin 12.6 gm/dl, total leucocytes count 8800/mm³ (N65, L35), Platelets 123000/mm³, ESR 44 in first hour, C - reactive protein 192 mg/L (Normal value <6 mg/L), negative RA factor. Urine examination showed albuminuria (3+) and hematuria (RBCs 20-30/HPF). Results of liver function tests, and renal function tests were normal. Tests for HIV, HBsAg, and Anti-HCV were non-reactive. Multiple blood cultures were reported sterile. Transthoracic and transesophageal echocardiography revealed dilated left atrium and ventricle, thickened mitral and tricuspid leaflets, mild thickening of aortic cusps, well-organized vegetations in anterior leaflet of the mitral valve, the right coronary cusp of the aortic valve, anterior and septal leaflets of tricuspid valve (**Figure 1**), severe mitral regurgitation, moderate tricuspid

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Citation

Dhungana SP, Sharma SK, Triple Valve Endocarditis with underlying Rheumatic Heart Disease: A Case Report, JoNMC. 10:1 (2021) 61-62.



regurgitation with right ventricular systolic pressure of 52 mmHg, mild aortic regurgitation and normal biventricular function. Ultrasonography of the abdomen showed fatty liver and prostatomegaly.

The case history was reviewed. Even though multiple blood culture reports were negative, the clinical picture was highly suggestive of IE, and the possibility of IE caused by a fastidious organism was considered. He was treated with intravenous Ceftriaxone two grams once daily for four weeks and Gentamicin 180 mg once daily for 2 weeks. He responded to the treatment and remained stable without any hemodynamic compromise and then was discharged subsequently.

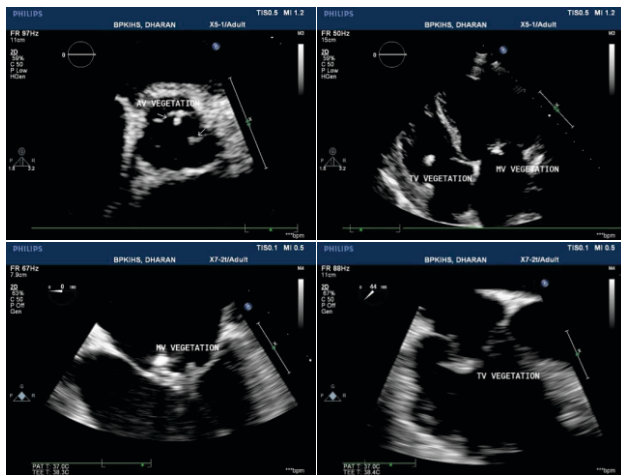


Figure 1: Upper images: Transthoracic echocardiography showing vegetations on aortic valve (parasternal short axis view), tricuspid, and mitral valve (apical 4-chamber view). **Lower images:** Transoesophageal echocardiography showing vegetations on mitral and tricuspid valves.

Discussion

In developed countries, the incidence of IE is common in the elderly owing to degenerative valve diseases and the need for a valve replacement with male predominance. [2] Several factors predispose to the development of IE. These include intravenous drug use, prosthetic valves, and other structural heart diseases. [1] In developing countries, IE occurs frequently in patients with chronic RHD because of its high prevalence. [3]

Most cases of echocardiography-proven IE are single valve diseases and the involvement of two or more valves is a rare condition. [4] Compared to single valve endocarditis, multiple valve disease is more frequently associated with heart failure, perivalvular complications, and the need for heart surgery. Despite this, in-hospital mortality rates in single valve endocarditis and multiple valve disease are similar. [5]

Our case is unique for three reasons. First, our patient had underlying undiagnosed RHD which was probably uncovered after the development of endocarditis. Second, he had vegetations on both right and left side cardiac valves which are otherwise common in intravenous drug users. Third, despite having vegetation on three valves, he was hemodynamically stable and did not have any septic and embolic complications.

Conclusion

IE has different manifestations and may pose a challenge for diagnosis. Our patient had an atypical presentation without hemodynamic compromise despite both multiple valves vegetation on the background of RHD.

Conflict of interests: None

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