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Case Report

A Rare Case of Rheumatic Valvular Heart Disease with Multivalvular Affection: A Case Report

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Abstract

Rheumatic heart disease (RHD) is common in developing countries with high prevalence among children and young adult that make social and economic burden over the community [1]. Right-sided valvular affection in RHD is quite rare and usually present in cases with multivalvular affection. We were encountered with a case of RHD with a multi-valvular involvement with left-sided affection in the form of severe mitral stenosis and moderate regurgitation, severe aortic stenosis and regurgitation and right-sided affection in the form of significant tricuspid stenosis and moderate regurgitation, moderate pulmonary regurgitation and mild stenosis in young male with a history of acute rheumatic fever since early childhood. He was referred for surgery where he has a three-valve replacement surgery. He was discharged home safely on anticoagulation and follow-up.

Keywords: *Rheumatic Heart Disease; Echocardiography; Rheumatic Valve Surgery; Tricuspid Stenosis; Mitral Stenosis; Pulmonary Regurgitation*

Introduction

Rheumatic heart disease (RHD) is a medical condition of global health importance. It has a higher incidence in low and intermediate income countries than high-income countries [2,3].

Case Presentation

A 26 years old male patient with a past medical history of acute rheumatic fever since early childhood with no follow-up. The patient presented to our medical facility for a preoperative echocardiography for a non-cardiac surgery. He recalled dyspnea grade II on exertion with no orthopnea and no PND. TTE revealed a rheumatic heart disease a multi-valvular affection with severe mitral stenosis and moderate regurgitation, severe aortic stenosis and severe regurgitation, organic tricuspid stenosis and moderate regurgitation and mild pulmonary stenosis and moderate regurgitation. Preserved left and right ventricular function with right ventricular hypertrophy.

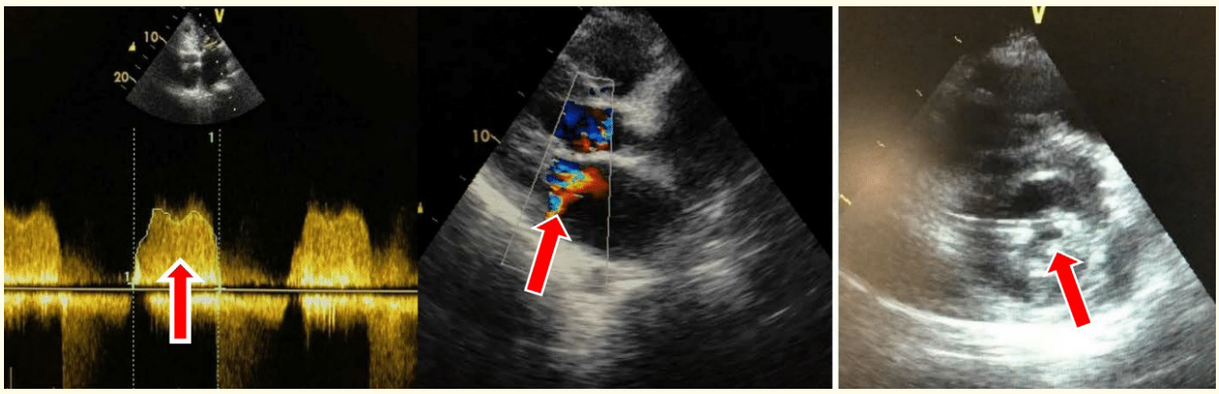

Figure 1: *TTE apical 4 chamber, parasternal long and short axis views showing severe mitral stenosis (MVA = 0.6 cm², MDG = 13 mmHg) and moderate eccentric posterior regurgitation.*

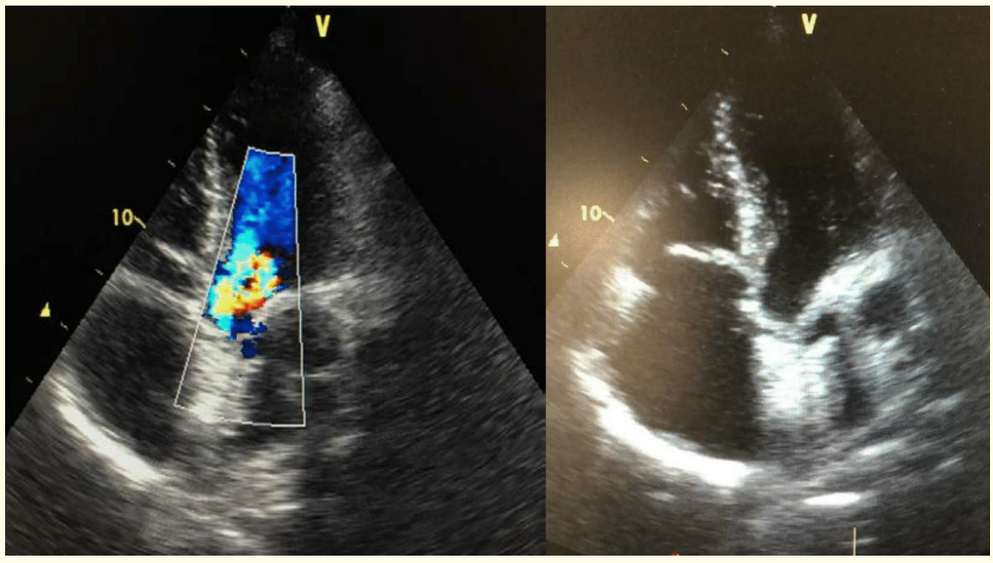

Figure 2: *TTE apical 5 chamber view showing severe aortic stenosis (PG = 85 mmHg) and severe regurgitation.*

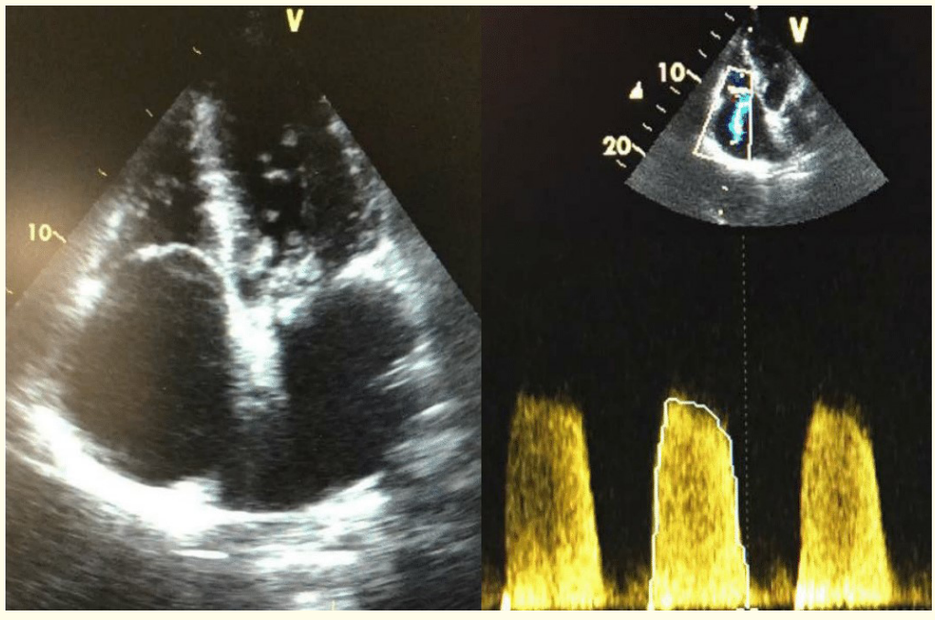

Figure 3: *TTE apical 4 chamber view showing significant tricuspid stenosis (MDG = 19 mmHg) and moderate regurgitation.*

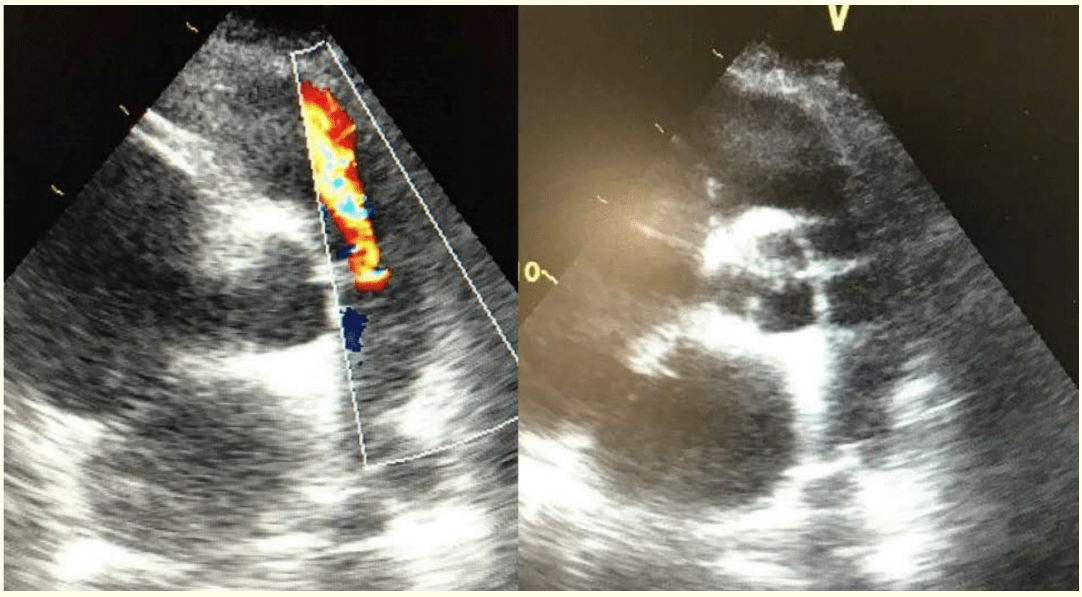

Figure 4: *TTE parasternal short axis view showing mild pulmonary stenosis and moderate regurgitation.*

He was referred to surgery in a specialized cardiothoracic center. He had a three-valve replacement surgery. He was discharged home safely on anticoagulation and a frequent follow-up.

Discussion

Diseases of the heart valves constitute a major cause of cardiovascular morbidity and mortality worldwide with RHD being the dominant form of valvular heart disease (VHD) in developing nations [4]. In RHD, left sided involvement is by far more common than right-sided involvement. The order of involvement of valves was mitral, followed by aortic, tricuspid and pulmonary valves [4]. Right-sided valvular affection is rarely encountered and sometimes overlooked [1]. Echocardiography remains the primary evaluation tool for patients with suspected and confirmed RHD and multivalvular disease, as it delineates the distribution and severity of valvular involvement and excludes alternate pathology [5]. Decisions about the timing and type of treatment should be made by a multidisciplinary heart valve team, on a case-by-case basis. Several factors should be considered, including the severity and consequences of the multivalvular disease, the patient's life expectancy and comorbidities, the surgical risk associated with combined valve procedures, the long-term risk of morbidity and mortality associated with multiple valve prostheses, and the likelihood and risk of reoperation. The introduction of transcatheter valve therapies into clinical practice has provided new treatment options for patients with MVD, and decision-making algorithms on how to combine surgical and percutaneous treatment options are evolving rapidly [5].

Conclusion

Rheumatic heart disease is still a global burden in developing countries with a lower incidence in developed countries nowadays. Special attention is required in cases of multivalvular affection for proper diagnosis and management of RHD.

Disclosure

The authors declare no conflict of interest.

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