

WOLFF-PARKINSON WHITE SYNDROME AND RHEUMATIC MITRAL STENOSIS - PRESENTING AS SUPRAVENTRICULAR TACHYCARDIA: A RARE PRESENTATION

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ABSTRACT

The presence of Rheumatic Mitral Stenosis and Wolff-Parkinson White Syndrome together in a same patient is a rare clinical entity. We report one such case in young adult with initial presentation as supraventricular tachycardia.

KEYWORDS

Rheumatic Mitral Stenosis, Wolff-Parkinson White Syndrome, Supraventricular Tachycardia.

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INTRODUCTION

A 35-year-old male presented in the midnight in the emergency department with complaints of palpitation, sweating, dyspnoea of acute onset. On physical examination his Pulse rate was 180 bpm with cool peripheries, Blood pressure 100/70 mmHg, Respiratory rate 24/min and Temperature 98.4 F. Neck veins were normal. There was no cyanosis, clubbing, pallor or pedal oedema.

On precordial palpation, rapid apical impulse was felt. No visible pulsation in the precordium. On auscultation, S1 and S2 were heard. Liver was normal in size. Immediately ECG was taken and showed narrow regular QRS tachycardia with a rate of 180 bpm and absent P wave (shown in Fig. 1) subsequently. Patient was admitted in IMCU and treated with nasal O₂; Injection Adenosine was given as a bolus of 12 mg. Patient's rhythm was reverted to sinus rhythm and repeat ECG showed short PR interval and delta wave in V1, V2, V3, V4. Also tall R in V1, Left atrial enlargement noted. The bypass tract of WPW was left posteroseptal (Type A WPW) with delta wave and positive concordancy of QRS complexes in precordial leads (shown in Fig. 2). On examination after reverting to sinus rhythm auscultation in mitral area revealed Loud S1 with opening snap followed by a mid-diastolic rumbling murmur of grade 4/6, heard best in the left lateral position with the bell of stethoscope in expiration.

On echocardiography in left parasternal long axis view demonstrated enlarged left atrium with doming of Anterior Mitral leaflet and restricted Posterior Mitral leaflet mobility with trivial Mitral regurgitation and characteristic hockey stick appearance of anterior mitral leaflet. On parasternal short axis view, mitral valve area 1.1 cm² suggestive of moderate mitral stenosis. There is no evidence of pulmonary hypertension. Laboratory investigation showed normal haemogram, normal RFT and LFT. X-ray chest showed normal size heart with

mitralisation of left ventricle. Due to risk of recurrent re-entrant tachycardia, we treated with Amiodarone. In view of WPW syndrome, digoxin was not started. Penicillin, diuretics, antiplatelet were given. We advised Radiofrequency ablation therapy of the accessory pathway with simultaneous valve replacement and his family members were motivated.

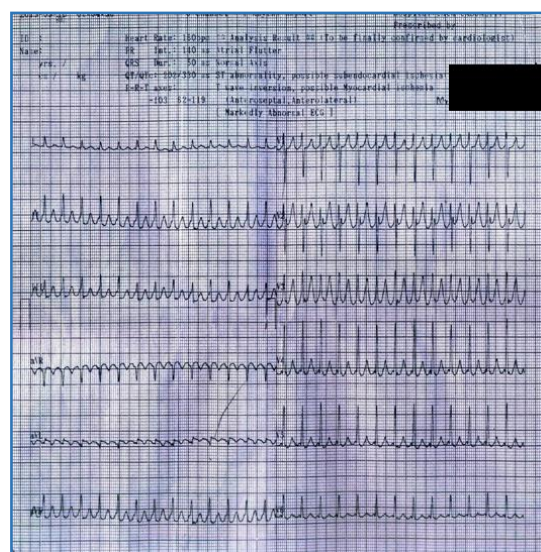


Fig. 1: Narrow QRS Tachycardia with Absent P Wave

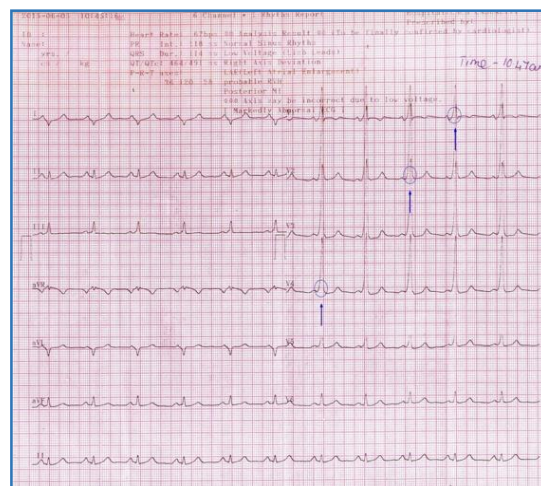


Fig. 2: Arrow Indicates Short PR Interval and Delta Wave

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Fig. 3: Apical 4 Chamber View showing Posterior Mitral Leaflet Fixed, Anterior Mitral Leaflet Doming, Thickened Mitral Valve, Dilated Left Atrium



Fig. 4: Apical 4 Chamber View



Fig. 5: Continuous Wave Doppler showing Moderate Mitral Stenosis



Fig. 6: Colour Flow Doppler showing Candle Light Appearance in Apical 4 Chamber View

DISCUSSION

The combination of WPW syndrome and Rheumatic mitral stenosis is rarely reported in Literature.¹ Clinical importance of this association is, it may increase risk of pre-excited Atrial Fibrillation or AVRT type of supraventricular tachycardia.² It is usually refractory to pharmacotherapy and electrocardioversion. Radiofrequency ablation and surgery is the treatment of choice.³

In some cases, accessory pathway is usually not dealt simultaneously with Mitral valve replacement by surgical division or Cryoablation or Radiofrequency ablation.^{4,5}

In some cases, Accessory pathway is ablated prior to valve surgery.⁶ Similar rates of long-term success has been reported in both the approach.

Ahmet et al for the first time attempted ablation for the case with pre-excited AF and deferred surgery due to the appearance of progressive multi-organ failure by incessant refractory tachycardia in the presence of tight Mitral stenosis in their patient. Post-operative course was favourable and subsequent ECG revealed disappearance of delta wave.

In our patient Radiofrequency ablation and surgery remains the mainstay of treatment, since he is young and no other risk factors like alcohol, smoking, diabetes or hypertension. He will be cured by this surgery and no need of long-term anti-arrhythmic medication. We report this case because it presented as supraventricular tachycardia in a previously apparently normal individual and investigation revealed both WPW syndrome and Rheumatic Mitral stenosis – a rare combination.

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