Wolff-Parkinson–White Syndrome and Rheumatic Mitral Stenosis – An Uncommon Association

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Abstract
The coexistence of rheumatic mitral stenosis and Wolff–Parkinson–White syndrome is an uncommon entity. We report here one such case.

Case Report
A 52 year old man presented in the emergency department with complaints of progressive dyspnoea. On physical examination his pulse was 100/minute, low voluminous with occasional missed beats, blood pressure – 100/70 mmHg, respiratory rate –22/minute, temperature –98.4 F. Neck veins were engorged up to angle of mandible and showed sharp ‘Y’ descent. Bilateral pedal edema was evident. There was no cyanosis, clubbing, pallor, or lymphadenopathy. On precordial palpation, there was tapping apical impulse, pulsations in left second intercostal space and in epigastrium and a conspicuous right ventricular heave. On auscultation S1 and S2 were loud with a prominent opening snap. A long mid–diastolic rumbling murmur of grade 4/6 was audible at the apex, along with a holosystolic murmur of tricuspid regurgitation at left lower sternum. Liver was enlarged, palpable and pulsatile.

Laboratory investigations showed haemoglobin – 10gm% with normocytic- normochromic picture in peripheral blood film. Complete blood count and renal function tests were within normal limits. Serum bilirubin was 1.5mg% with SGOT and SGPT- 60 and 68 IU/L respectively. X ray chest showed cardiomegaly, prominent double contour of enlarged left atrium and cephalization of vessels. Electrocardiogram revealed Wolff Parkinson White (WPW) syndrome with short PR interval and a slurred upstroke of QRS complex (delta wave). The bypass tract of WPW syndrome was left postero – septal (type A WPW) with left axis of QRS and delta wave and positive concordancy of QRS complexes in precordial leads. Delta wave was negative in leads II, III, aVF and positive in lead V1 (Figure 1). Echocardiogram – left parasternal long axis view demonstrated enlarged left atrium with thickened mitral leaflets and characteristic hockey stick appearance of anterior mitral leaflet (Figure 2). On parasternal short axis view, mitral valve area was 0.96 cm² suggestive of severe mitral stenosis (MS) (Figure 3). Due to risk of refractory pre-excited atrial fibrillation in such patients, we advised ablation therapy with simultaneous mitral valve replacement using cardio-pulmonary bypass while others have performed ablation of path prior to valve surgery. Similar rates of long term success has been reported in both the methods. Ahmet et al for the first time

Discussion
The combination of WPW syndrome and mitral stenosis is rarely reported in literature. The main clinical implication of this combination is that, it may increase risk of pre-excited atrial fibrillation (AF) which is refractory to medical therapy and electro-cardioversion. Hence surgery remains therapeutic modality of choice. In some of these cases surgical division and cryoablation of accessory path has been performed simultaneously with mitral valve replacement using cardio-pulmonary bypass while others have performed ablation of path prior to valve surgery. Similar rates of long term success has been reported in both the methods.
attempted ablation during pre-excited AF and deferred surgery due to the appearance of progressive multiorgan failure by incessant refractory tachycardia in presence of tight MS in their patient. Post operative course was favourable and subsequent ECG revealed disappearance of the delta wave.

Fig. 3: Echocardiogram – left parasternal short axis view showing reduced mitral valve area.

References


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