‘Himalayan’ P Wave

A 19 years old male patient was admitted with complaints of breathlessness and palpitation for last three months and swelling feet for last two months. On examination, pulse was 94/minute, regular, blood pressure was 110/70 mm Hg and breathing rate was 26/minute. Cyanosis, clubbing and other features of right heart failure were also present. On CVS examination, cardiomegaly was present, splitting of S₁ and S₂ was heard and there was pansystolic murmur in the tricuspid area.

ECG (Fig. 1) rate was 88/minute, rhythm was regular, QRS axis was –90°, p wave axis was +90°, Tall p wave ('Himalayan' p wave) in leads II, III, aVF and V₁, with maximum p wave amplitude of 1 mv in lead V₁, Morris’ index was 0.72 mm sec. There was evidence of RBBB and intermittent 1° AV block.

Chest X ray PA view (Fig. 2) shows gross cardiomegaly with right atrial enlargement and oligemic lung fields.

On echocardiography, right atrium was grossly dilated, septal leaflet was displaced downward by 78 mm, combined atrialised right ventricle and right atrial area was 86 mm², normotensive severe tricuspid regurgitation was present (TRJA=6.98 cm², TR velocity=2.4 m/sec, gradient=23 mm Hg). Large ASD (secundum) was also present.

Final Diagnosis: Severe Ebstein's anomaly with large ASD (secundum) with right to left shunt with right heart failure.

Right atrial enlargement with left QRS axis deviation and p wave axis +90° with RBBB are quite suggestive of Ebstein’s anomaly. This much of p wave can only be seen in Ebstein's anomaly and it is also known as 'Himalayan' p wave.

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