Third degree heart block in acromegaly

Sir,

Intraventricular conduction defects and arrhythmias are common in acromegaly. However, third degree heart block in acromegaly has not to our knowledge previously been reported.

A 57 year old male presented with an episode of syncope. The attack lasted a few seconds and was not associated with seizure, palpitation or chest pain. He had had hypertension for 10 years, impotence for 3 years and diabetes mellitus for a year. Physical examination revealed a large, coarse featured man with obvious features of acromegaly. His pulse rate was 56/min, regular in rhythm, and did not change with posture. His blood pressure was 180/85 mmHg supine and 150/80 mmHg on standing. Examination of the jugular venous pulse revealed irregular 'cannon' a waves. The first heart sound was variable in intensity.

Electrocardiograph showed the presence of third degree heart block with wide QRS complexes and a ventricular rate of 56/min. Serum electrolytes, calcium and magnesium levels were normal. Chest X-ray showed cardiomegaly. The skull X-ray demonstrated a large pituitary fossa with a thin floor and computed tomographic (CT) scan of the brain revealed a pituitary tumour with suprasellar extension and erosion of the sphenoid sinus. Basal growth hormone level was elevated at 23.7 mIU/l (normal < 7 mIU/l). This failed to suppress during an oral glucose test using 75 g glucose. Temporary pacing was instituted shortly following admission.

Further tests performed showed no significant heart rate response to exercise, intravenous atropine or isoprenaline infusion. An echo-Doppler examination of the heart showed minimal left ventricular hypertrophy, and normal mitral, aortic and tricuspid valves. There was no myocardial calcification or echocardiographic pattern suggestive of amyloidosis. Failure to respond to exercise, atropine and isoprenaline and the wide QRS of the escape pacemaker suggest the block is infraHisian. A permanent ventricular demand pacemaker (VVI) was implanted and he subsequently had a normal paced rhythm. He then underwent an uneventful transphenoidal hypophysectomy.

It is unlikely that the third degree heart block in this patient represents a problem unrelated to his acromegaly. There was no suggestion of digitalis intoxication, myocardial infarction, calcific aortic stenosis, cardiac amyloidosis or ventricular septal defect, all of which can cause third degree heart block. Idiopathic sclerosis of the conduction system and myocarditis, known causes of third degree heart block, are more difficult to exclude. Myocardial biopsy was not performed. Diffuse interstitial myocardial fibrosis and myocarditis are common pathological findings in acromegalic with cardiac disease. In this patient the third degree heart block is considered secondary to diffuse interstitial fibrosis involving the conduction system.

References


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