An unusual case of complete heart block

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Complete heart block often affects older patients with fibrosis of their conduction system. However, rare causes are sometimes encountered. A 57-year-old man, with no prior cardiac history, presented with exertional syncope. An electrocardiogram showed complete heart block with an atrial rate of 75 bpm and a slow narrow escape rhythm (QRS duration 110 ms) of 25–30 bpm. Blood investigations were normal. Transthoracic echocardiography (TTE) showed a structurally normal heart. A dual-chamber pacemaker was inserted. On follow-up 15 months later, he complained about persistent breathlessness. A repeat TTE showed a 1.6 × 1.2 cm right atrial mass below the septal leaflet of the tricuspid valve (Figure 1A), which was not previously seen. A computed tomography scan showed the same mass arising from the interatrial septum (Figure 1B). The patient underwent excision of the right atrial mass. Intraoperatively, an atrioventricular (AV) nodal cyst was observed. The cyst was marsupialized. Histology showed fibrous connective tissue and no features of malignancy. The patient remained well post-operatively. Cystic tumours of the AV node are a rare form of primary cardiac tumours. They may disrupt the cardiac conduction pathways, causing AV blocks or ventricular arrhythmias resulting in sudden death. Antemortem diagnosis and successful excision of such cases remain exceedingly rare. It is likely that the AV nodal tumour was responsible for the patient’s initial presentation with complete heart block, even though the mass was too small to be detected on TTE initially. The precise reason for the patient’s subsequent breathlessness as the mass became larger is unclear as there was no evidence of right ventricular inflow obstruction or pulmonary emboli. Interestingly, however, the patient’s symptoms resolved after excision of the mass. We report here the first case of an AV nodal tumour in a male, diagnosed antemortem and excised successfully.

Figure 1. Parasternal short-axis view on TTE (A) and computed tomographic imaging (B) showing the intracardiac tumour at the atrioventricular nodal region (identified by the arrow in both images). RA, right atrium; RV, right ventricle; LA, left atrium; AoV, aortic valve.