

Heart block and paragonimiasis

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SUMMARY Intracardiac granulomas can cause complete heart block. A case of complete heart block is reported in a patient who had had paragonimiasis 30 years before and who had radiographic evidence of calcified granulomas in the heart and lungs.

Paragonimiasis is caused by the trematode parasite *Paragonimus westermani* which infects people who eat raw or inadequately cooked crayfish and crabs. Capsules of inflammatory and fibrous tissue form around each developing parasite. These generally cause respiratory symptoms, enteritis, and hepatitis; heart block has not been reported before.

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Case report

A 63 year old white man was admitted to hospital after he lost consciousness for about five minutes. On arrival at hospital he had a further episode of cardiac syncope during which his electrocardiograph showed periods of ventricular standstill. His electrocardiogram showed complete heart block with wide QRS complexes (fig 1), and a temporary pacemaker was inserted.

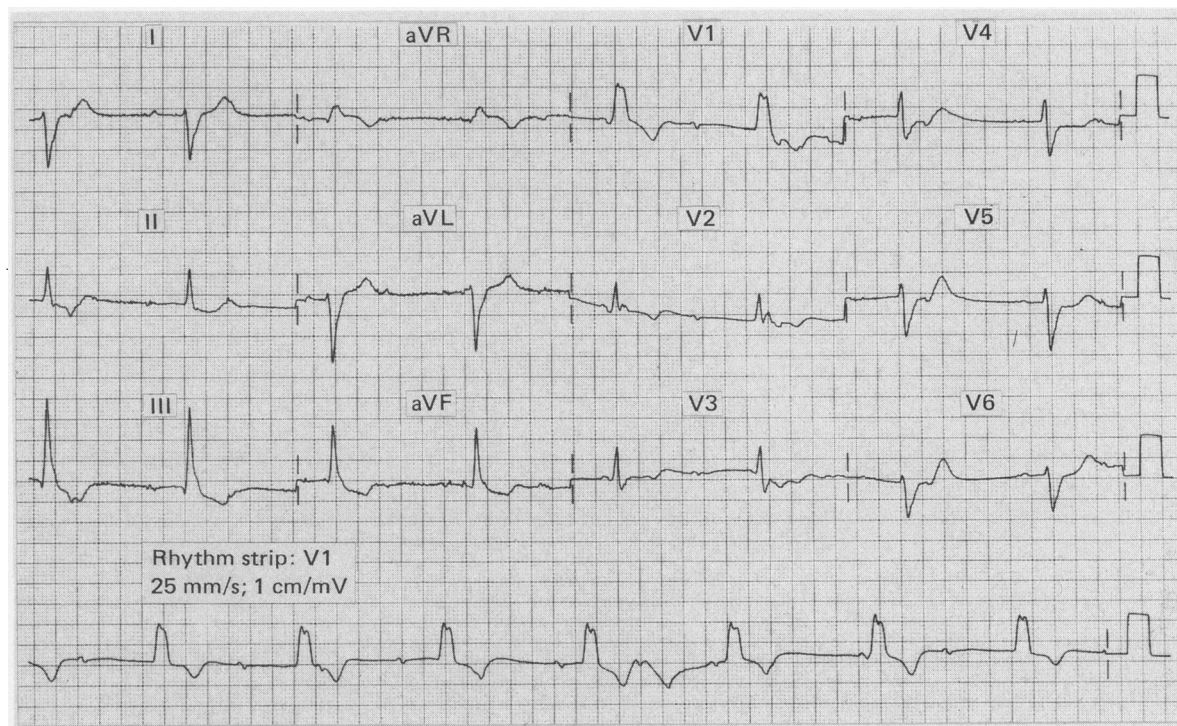


Fig 1 Electrocardiogram on admission.

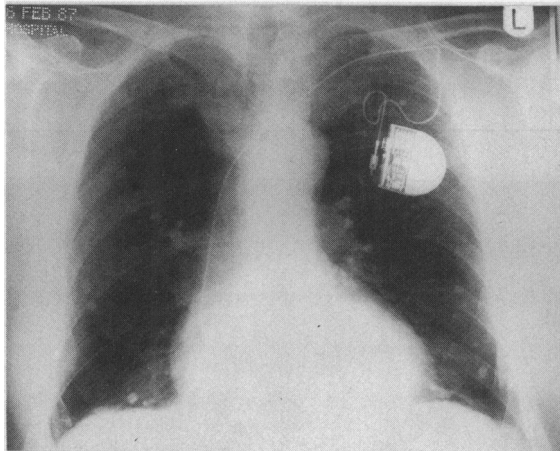


Fig 2 Chest radiograph showing multiple calcified granulomas.

He had had rheumatic fever at the age of 16, and while he was a prisoner of war in Korea he had had paragonimiasis from eating raw fish. He developed asthma in the 1950s, and on admission he was taking theophylline (400 mg twice a day) and prednisolone (5 mg a day), and was using salbutamol and beclomethasone inhalers.

He was a wood machinist and did not smoke. There was no family history of heart disease and he did not have a history of previous angina or syncope. He complained of severe exertional dyspnoea and of intermittent haemoptysis.

Examination showed that he was obese but he had neither cyanosis or finger clubbing. His pulse rate was 40 per minute, blood pressure was 120/70 mm Hg, and the heart sounds were soft. There was hyperinflation of the chest with generally diminished air entry, a prolonged expiratory phase, and

expiratory wheezes. Abdominal and neurological examinations were normal.

Investigations showed: erythrocyte sedimentation rate 7 mm in 1 hour; haemoglobin concentration 16.4 g/l; white blood cell count $11.4 \times 10^9/l$ (neutrophils 61%, eosinophils 2%, basophils 1%, lymphocytes 29%, monocytes 7%); serum creatinine 140 $\mu\text{mol/l}$; normal serum electrolytes and serial cardiac enzymes; Venereal Disease Research Laboratory test negative; blood glucose 5.9 mmol/l; plasma calcium 2.3 mmol/l; normal lung function tests; sputum negative for acid fast bacilli with no growth on culture; the electrocardiogram showed complete heart block with broad QRS complexes; the chest x ray showed multiple calcified areas, presumed to be granulomas, throughout both lung fields and cardiomegaly (fig 2); cardiac fluoroscopy showed intra-cardiac granulomas; echocardiography showed good left ventricular contractility with normal (non-calcified) valves and bright echoes in the region of the septum; a scintiscan of the myocardium showed that distribution of thallium was normal with no evidence of underlying myocardial ischaemia; the Kveim test was negative.

When a permanent pacemaker was inserted (Vitatron Helifix electrode, Intermedics Prima generator) it was difficult to obtain a good pacing threshold.

Discussion

This patient had evidence of calcification in the heart and lungs but no evidence of other known causes of cardiac calcification such as tuberculosis or sarcoidosis. Although we have no histological proof, we presume that the complete heart block was caused by a calcified granuloma in his conducting system—a sequela of paragonimiasis 30 years before.