Spontaneously acquired fistula from the right coronary artery to the right ventricular cavity

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Abstract
A 47 year old man developed a fistula from the right ventricular branch of the right coronary artery to the right ventricular cavity in association with distal occlusion of the main trunk of the right coronary artery. There was no clinical or electrocardiographic evidence of acute myocardial infarction.

Case report
A 42 year old white man presented in November 1982 with an anterior myocardial infarction. Left ventricular angiography in the convalescent period showed a small anterolateral aneurysm but good global ventricular function. At coronary angiography there was a 50% diameter stenosis in the left anterior descending artery and minor atheromatous change in the right coronary artery (fig 1). Medical treatment was continued and he made an uneventful recovery and subsequently did not attend for follow up examination.

In May 1987 he was readmitted with prolonged ischaemic chest pain brought on by exercise. There was no evidence of myocardial infarction and his resting electrocardiogram was unchanged from that in 1982. Exercise testing showed considerable inferior ischaemia, and he underwent repeat cardiac catheterisation in April 1988. On this occasion there was considerable hypokinesia of the inferior and posterior portions of the left ventricle. There was a 70% diameter stenosis of the left anterior descending artery and a 50% diameter stenosis of the obtuse marginal branch of the circumflex artery. The previously dominant right coronary artery was occluded (fig 2) and filled to the crux from the left. There was a tight stenosis of the right ventricle in association with arterial occlusion but without electrocardiographic evidence or a clinical diagnosis of myocardial infarction.

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Figure 1 60° Left anterior oblique view of the right coronary artery in 1982.

Figure 2 60° Left anterior oblique view of the right coronary artery in 1988 showing the occluded main trunk of the artery, the dilated first right ventricular (RV) branch and the abnormal leash of vessels draining directly into the right ventricular cavity. RCA, right coronary artery.
We all who fulfil will have cardiomyopathy big. Familial dilated cardiomyopathy suggests that one in five patients with dilated cardiomyopathy will have one or more relatives who fulfil the diagnostic criteria for dilated cardiomyopathy. The prevalence of familial disease is likely to be greater than the 20% reported, as an additional 28 patients (9%) from 22 families were considered to be of indeterminate status. There are no clinical features that distinguish familial from non-familial disease.

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