

# Coronary Artery Fistula

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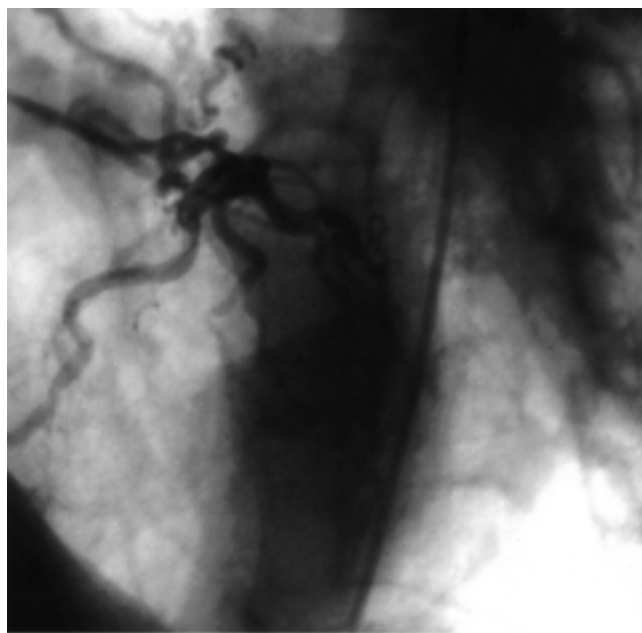
## Case Report

An 85 years old gentleman presented with retrosternal chest pain for six months. There was no heart murmur. Echocardiogram showed mild anterior hypokinesia; a persantin thallium scan showed partial reversible defect of the distal LAD territory. The

patient underwent a coronary angiogram, which revealed a patent arteriovenous fistulae originated from a large first diagonal artery and draining into the pulmonary artery (Figures 1 and 2). This resulted in a distal LAD "steal" with subsequent myocardial ischaemia. The LV ventriculogram revealed a mild anterior hypokinesia.



**Figure 1.** Right anterior oblique view of the left coronary system injection. A coronary fistula drained upwards into the pulmonary artery.



**Figure 2.** Left caudal view showing the orifice of the fistulae from the diagonal branch.

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Received November 2, 2000; revision accepted November 13, 2000

## Discussion

Coronary artery fistula is uncommon cardiac lesion but it is the most common congenital coronary anomaly with haemodynamic consequence.<sup>1</sup> The incidence of coronary artery fistula in adult population undergoing coronary angiography study is reported to 0.1-0.2%.<sup>3</sup> The natural history of such fistula has not been studied in large numbers of patients. It is believed that most of the small lesions are asymptomatic. Eccleshall et al<sup>2</sup> reported a series of 17 fistulae in 14 heart transplant patients followed for a median of six years. The majority closed spontaneously, none increased in size and no clinical complications occurred. Large lesions, however, generally require closure to prevent complications such as myocardial ischaemia from a steal phenomenon, endocarditis and potential aneurysmal dilatation and rupture.

Treatment options include coil embolisation,

transcatheter occlusion with covered stents and surgical ligation. The method of closure depends on the individual anatomical features of the fistula. Transcatheter closure with Rashkind double umbrella or Amplatzer septal occluder has been widely used in paediatric cases of congenital coronary arteriovenous fistula and less frequently in adults.<sup>1</sup>

## References

1. Pedra CAC, Pihkala J, Nykanen DG, et al. Antegrade transcatheter closure of coronary artery fistulae using vascular occlusion devices. *Heart* 2000;83:94-6.
2. Eccleshall SC, Pitt M, Townsend JN. Transcatheter embolisation of an enlarging acquired coronary arteriovenous fistula in a heart transplant recipient. *Heart* 1997;78:203-5.
3. Dakik HA, Farmer J, Kleiman NS. Fistula between left main, left anterior descending, and pulmonary arteries. *Circulation* 1998;97:2091-2.