

## SHORT CASES IN CARDIOLOGY

## Usefulness of transoesophageal echocardiography in showing the route of anomalous coronary arteries

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A 67 year old man, was admitted to hospital because of unstable angina. After his condition had been stabilised, he underwent a stress test, which caused chest pain and ST segment changes. Three vessel coronary artery disease

and an anomalous left main coronary artery were found at catheterisation. The left main vessel originated from the right sinus of Valsava. It was thought to follow an inter-arterial route (fig 1).

A transoesophageal echocardiographic study (TOE) clearly identified the anomalous route running between the aorta and the pulmonary trunk (fig 2).

Coronary artery anomalies are rare and are associated with an increased risk of myocardial ischaemia and sudden death, particularly when the anomalous vessel passes between the aorta and pulmonary trunk. This anomaly is the most common cause of sudden cardiac death in young adults.<sup>1,2</sup>

Coronary angiography is currently the usual technique for diagnosing coronary anomalies and excluding coronary atherosclerosis. It may be difficult to determine the precise course of the anomalous coronary by angiography,<sup>3</sup> and a less invasive diagnostic procedure for reliable identification is needed.

Successful imaging of coronary artery anomalies by transthoracic echocardiography has been reported (TTE),<sup>4</sup> but TOE is a much better technique for detecting the origin of the left main coronary artery and right coronary,

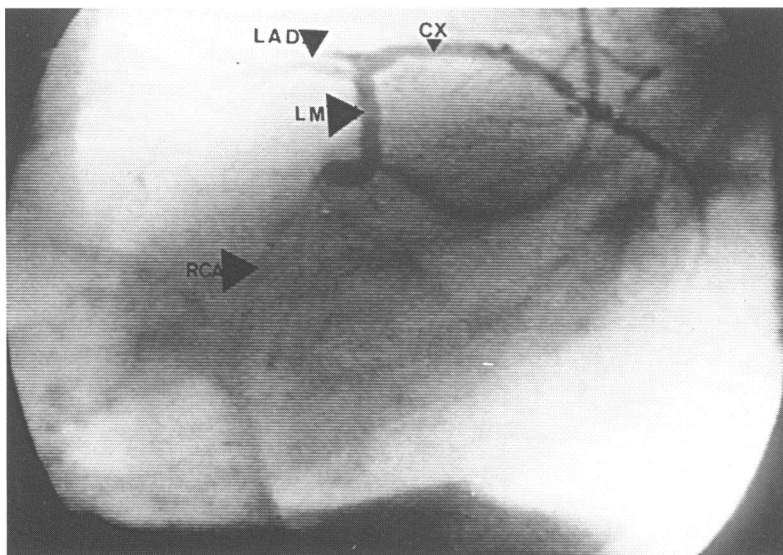
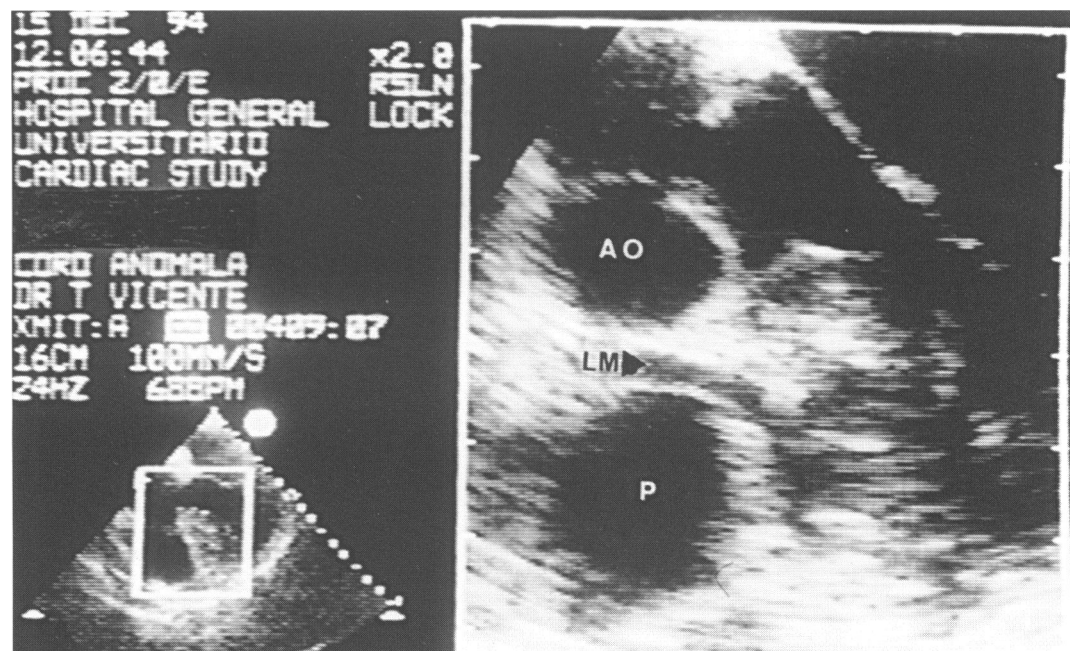


Figure 1 Coronary arteriogram showing the origin of the left main (LM) coming from the right coronary artery (RCA). CX, circumflex artery; LAD, left anterior descending artery.

Figure 2 Transoesophageal echocardiogram in the basal short axis view. The anomalous origin of the left main (LM) from the right coronary sinus is shown, as is its course between the aorta (AO) and the pulmonary artery (P).



with sensitivities ranging from 77% to 100% for the left main and from 26% for the right.<sup>5</sup> More recently, Gaither *et al* showed that TOE is a valuable tool in identifying anomalous coronary arteries and defining and confirming their anomalous course.<sup>6</sup>

Its value in this patient was clearly demonstrated. Although TOE does not visualise the entire course of the coronaries and takes much longer than a routine TTE examination, it is a useful semi-invasive diagnostic procedure in patients with anomalous coronary arteries.

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