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IMAGES IN CARDIOLOGY

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An unusual origin of the left coronary system

A 72-year-old man presented with a history of exertional angina with a positive exercise test at a low workload. Risk factors included hypertension and hyperlipidaemia. An initial coronary angiogram showed a vestigial remnant of the left main stem arising from the left coronary cusp. An anomalous origin of the left main stem (ALMO) was suspected. The right coronary artery ostium was normally positioned.

CT scanning of the aortic root confirmed a left main stem arising adjacent to the right coronary ostium in an anterior position. Coronary angiography was then repeated. Engagement of the anomalous left coronary ostium was obtained using a Q4 guide catheter and was seen supplying the mid-portion of the left anterior descending artery. Proximally the left anterior descending artery (PLAD) continued as the circumflex vessel. There was severe disease in the proximal and mid left anterior descending artery, the circumflex artery (LCx) was mildly diseased, but the right coronary artery was heavily diseased with a significant bifurcation lesion at the crux (panel A).

In view of the findings the patient was accepted for surgical revascularisation.

Anomalies of coronary artery anatomy affect about 1% of the general population. Usually the left coronary system originates from the right coronary cusp. In this case, however, the left main stem (LMS) had a separate origin from the anterior aspect of the aortic root and adjacent to the right coronary ostium (panel B). The circumflex artery then arose as a continuation from the left anterior descending artery and this is thought to be a very rare occurrence.

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