

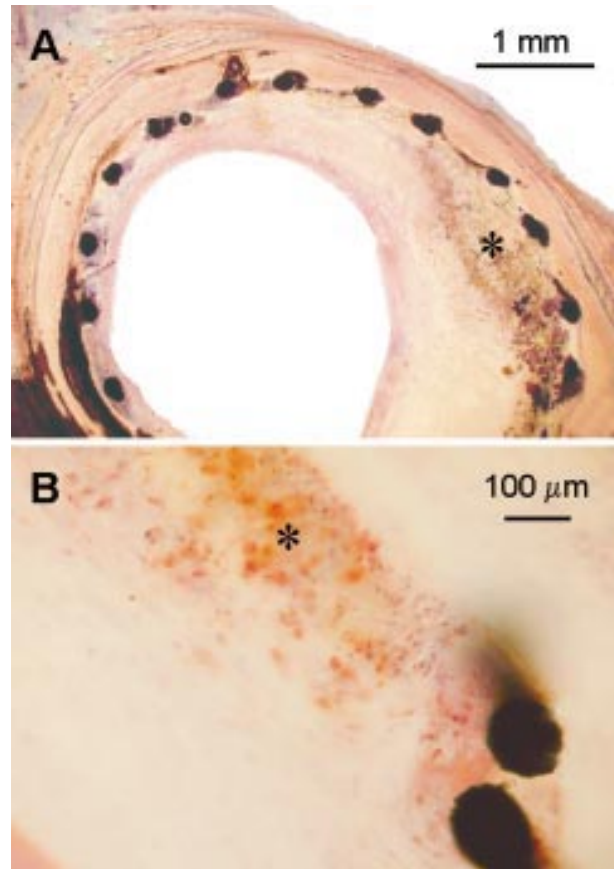
IMAGES IN CARDIOLOGY

In-stent restenosis and atherosclerosis in a human saphenous vein graft

A 62 year old man developed recurrent stable angina 16 years after coronary artery bypass grafting (CABG) with saphenous vein grafts to the left anterior descending and right (RCA) coronary arteries. Angiography showed a long critical stenosis in the mid portion of the RCA vein graft. A 28 mm Wallstent was deployed with a good angiographic and clinical result. However, the patient developed unstable angina 11 months later, and angiography now showed the RCA vein graft to be occluded by a new ostial lesion. Attempts at further angioplasty were not successful, so redo CABG was performed. A new saphenous vein graft was anastomosed to the distal RCA, and the original occluded vein graft was resected. This vessel was fixed, embedded in methyl methacrylate resin, and sections through the stented segment were cut with a diamond saw. Panel A shows a low power ($\times 2.5$) photomicrograph of the stented vein graft section, stained with haematoxylin and eosin. There is a moderate degree of circumferential intimal hyperplasia, with a large eccentric atherosclerotic plaque between the stent struts and lumen (*). Panel B shows a high power ($\times 10$) view of the atherosclerotic plaque using oil red O to stain lipid deposits red/orange. Lipid laden macrophages (*) are localised around the stent struts, and a hypocellular fibrous cap is interposed between these chronic inflammatory cells and the vessel lumen. This case shows that features of classical atherosclerosis, in addition to intimal hyperplasia, may contribute to in-stent restenosis in human saphenous vein grafts.

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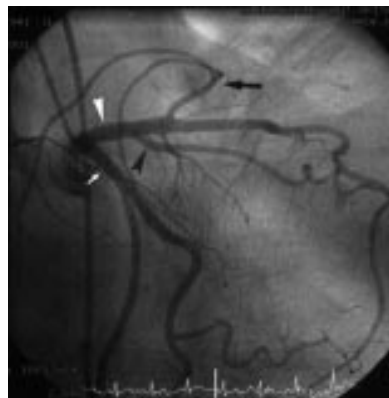
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Anomalous right coronary artery originating from the mid left main coronary artery

A 60 year old woman presented with chest pain to our department. Risk factors for coronary artery disease included hypertension and hypercholesterolaemia. Her coronary angiogram (see panels) showed normal left anterior descending (LAD) and circumflex (CXF) coronary arteries. However, the right coronary artery (RCA) originated from the mid LAD (RCA, wide black arrow; LAD, white arrowhead; first diagonal, black arrowhead; CXF, white narrow arrow). No collateral circulation from the left to the right coronary artery was observed. There was no evidence of external compression of the proximal portion of the RCA during systole or diastole. Acetylcholine infusion did not cause vasoconstriction of the coronary artery. On the basis of these results we felt there was no evidence of coronary artery disease or vasospastic angina.

Coronary artery anomalies are present in 1–2% of the population who undergo coronary angiography. Single coronary arteries are



very rare, with a necropsy incidence of 0.29%. RCA originating from the left main coronary artery accounts for only 0.65% of these anomalies.



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