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IMAGES IN CARDIOLOGY

doi: 10.1136/hrt.2006.097618

Isolated “superdominant” single coronary artery: a particularly rare coronary anomaly

Coronary angiography was carried out in a 69-year-old woman with typical angina, diabetes mellitus and hypertension. We were unable to intubate the ostium of the left main coronary artery. Cannulation of the right coronary ostium (in right sinus of Valsalva) showed an isolated “superdominant” coronary artery (panels A–C), which initially followed the course of the normal right coronary artery, then proceeded via a posterolateral segment into the course of the normal left circumflex artery with intermediate lumen narrowing (panel A, arrow), and finally (at the site where the left main bifurcation is normally located) followed the course of the normal left anterior descending artery. This final arterial segment was quite rudimentary; a posterior descending artery and aberrant branches of a

right ventricular artery supplied the anteroapical region of the left ventricle. The absence of an additional left coronary artery was confirmed by aortography (panel D). The dimensions and function of the left ventricle were entirely normal. Under medical treatment, the patient was without any symptoms at follow-up.

Single coronary arteries are rare congenital anomalies with an incidence of 0.024%, whereas the subtype of the present case (R-I according to Lipton’s classification) is by far the most rare type of single coronary artery with an incidence of <0.0008%.

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Isolated single coronary artery arising from the right sinus of Valsalva. (A) Left anterior oblique (LAO) 50°. (B) Right anterior oblique (RAO) 85°. (C) RAO 35°. (D) Aortography at LAO 55° confirmed absence of an additional left coronary artery. RCA, right coronary artery; RCX, right circumflex; LAD, left anterior descending.