Anomalous right coronary artery from the left coronary sinus, with an interarterial course

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A 45-year-old man with a history of dyslipidaemia and familial coronary artery disease was referred to our institution for increasing episodes of exertional chest pain over the past weeks. Previous cardiac stress testing on a bicycle ergometer revealed non-specific ST abnormalities (180 W, heart rate ranging from 65—169 beats/min, stopped because of leg pain). The results of clinical examination and an electrocardiogram were normal, and the troponin I concentration was in the normal range. Echocardiography showed normal left ventricular ejection fraction with no wall-motion abnormalities. Coronary angiography revealed right-dominant circulation with no coronary stenosis. A congenital anomalous origin of the right coronary artery was seen, with the origin in the left coronary sinus close to the left main artery (Fig. 1). The patient underwent 16-slice coronary computed tomography (CT), which showed a right coronary artery origin from the left coronary sinus, with an interarterial course between the ascending aorta and the pulmonary trunk (Fig. 2). Betablocker therapy was initiated in the absence of sudden cardiac death, ventricular arrhythmia or exercise-induced presyncope. With treatment, the patient had no symptoms and the results of the nuclear stress test were normal, with no myocardial ischaemia (150 W, heart rate from 55—145 beats/min, stopped because of stiffness) (Fig. 3). A conservative management approach was decided, without surgical correction.

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Figure 1. A. Selective left coronary angiogram showing right coronary injection at the same time. B. Left anterior oblique projection of right coronary artery with origin in the left sinus of Valsalva near left main (left Judkins coronary catheter).

Figure 2. A. 16-MSCT oblique maximum intensity projection image of the right coronary (RCA) between aorta (AO) and pulmonary artery (PA). B. Volume rendered cranial view showing high origin of the CD from the left sinus of Valsalva near left main (LM) with Interarterial course.
Figure 3. Peak stress ECG and nuclear stress images under betablocker.

Conflicts of interest statement

None