Anomalous aortic origin of a coronary artery (AAOCA) from the opposite sinus of Valsalva

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DESCRIPTION

A 77-year-old woman with multiple risk factors for coronary artery disease, was referred for left heart catheterisation after abnormal dobutamine stress test, revealing anterior and anterolateral hypokineses. Coronary angiogram revealed a large, dominant right coronary artery (figure 1A), originating from the right coronary cusp along with underdeveloped anomalous left coronary system. Left main artery was absent. Left anterior descending artery (LAD) was originating from right coronary cusp posteriorly (figure 1B), while the left circumflex artery (LCx) from the same cusp anteriorly (figure 1C). Probably the small calibre of the LAD and LCx might be the cause of abnormal stress echo findings. No significant obstructive disease was noted and the patient was

Figure 1 (A) LAO cranial view. Dominant large calibre right coronary artery (RCA). (B) RAO caudal view. Left anterior descending artery (LAD) originating from right coronary cusp posteriorly. (C) LAO caudal view. Left circumflex artery (LCx) originating from anterior aspect of right coronary sinus.

Figure 2 Three-dimensional CT of coronary arteries. Three coronary arteries originating from the same right aortic cusp. Ao, aorta; RAC, right aortic cusp; RCA, right coronary artery; LCx, left circumflex artery; LAD, left anterior descending artery.

Learning points

- ▶ The utilisation of CT in establishing the anomalous coronary anatomy.
- ▶ The importance of recognition of the malignant course of anomalous arteries.
- ▶ Surgical treatment and close clinical follow-up of the patients with a left anomalous coronary artery originating from the right sinus of Valsalva.

qualified for medical treatment. Subsequent CT of the heart confirmed the anomalous coronary anatomy (figure 2).

Anomalous aortic origin of a coronary artery from the opposite sinus of Valsalva is a rare (0.1%–0.3%),¹ but intensively investigated entity, associated with sudden cardiac death (SCD). The intramural course of anomalous left main artery between aorta and pulmonary artery is associated with the highest risk of SCD. The proposed mechanism of ischaemia comprises the obstruction of a flap-like orifice, usually during exertion. There are no established guidelines regarding the treatment. Nevertheless, based on recent data, surgery should be offered to all young patients with a left anomalous coronary artery originating from the right sinus of Valsalva.²

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