Coronary anomaly

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IMAGE FOCUS

Coronary anomaly: when you think you've seen it all

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A 71-year old man known with hypertension presented with progressive dyspnoea on exertion. Because of global and mild left ventricular (LV) systolic dysfunction on echocardiography, invasive coronary angiography (ICA) was performed. Although obstructive coronary artery disease was ruled out, an unusual coronary artery anomaly (CAA) was revealed. The right coronary artery (RCA) originated from the left sinus of Valsalva giving off a left anterior descending (LAD) and circumflex artery (Cx) (Figure 1, panel A–B). A second LAD giving off a diagonal (D) and septal (S) branch originated from a separate ostium also in the left sinus of Valsalva (panel C). Computed tomographic coronary angiography (CTCA) showed a subpulmonic course (between aorta and right ventricular outflow tract) of the RCA, a retro-aortic course of its Cx and pre-pulmonic course of its LAD (panel D–F). Besides an acute angle take-off, no other malignant features of the aberrant RCA were present. Because additional dobutamine-stress echocardiography was normal, he was managed conservatively with antihypertensive medication only. LV systolic function normalised after seven months.

Our case illustrates a unique CAA that was found coincidentally. CAA that have an interarterial course (between aorta and pulmonary artery), especially in association with a slit-like ostium, acute angle take-off or intramural course are associated with myocardial infarction, arrhythmias and even sudden death, while a subpulmonic course is less malignant. Although orthogonal projections of two-dimensional ICA projections allow a limited three-dimensional reconstruction of the coronary tree in the experienced angiographer's mind, this can be difficult in complex anomalies. CTCA imaging allows detailed and accurate visualisation of anomalous vessels and their relation to the great arteries and surrounding anatomical structures, thereby contributing important prognostic information.

Disclosure statement

No potential conflict of interest was reported by the authors. All authors take responsibility for all aspects of the reliability and freedom from bias of the data presented and their discussed interpretation.

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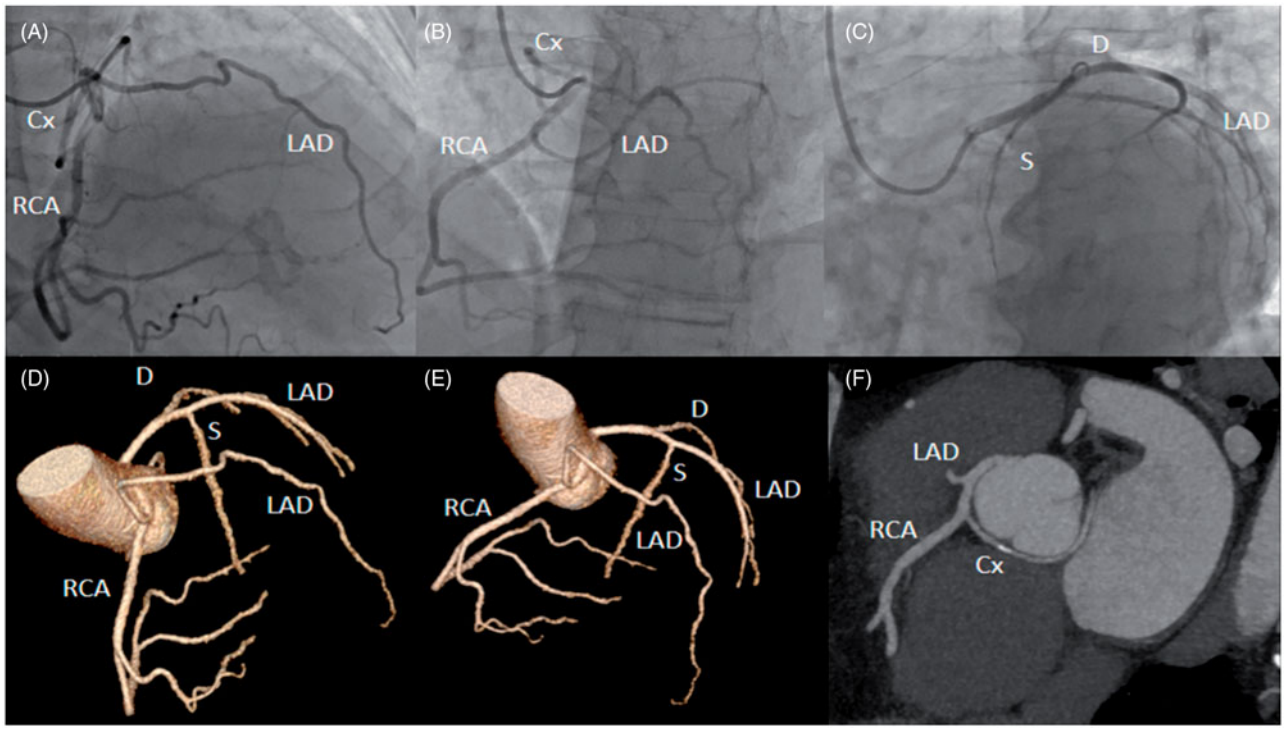

Figure 1. Invasive coronary angiography of the coronary anomaly in right anterior oblique (panel A) and left anterior oblique projection (panel B–C) with corresponding three-dimensional reconstruction from a 192 slice dual-source CT coronary angiography (panel D–E) with a maximum intensity projection (panel F).