1.35 cm protruding right coronary artery stent with an uncomplicated course

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DESCRIPTION

A 74-year-old woman with medical history of coronary artery disease with stent to right coronary artery (RCA) 1 year ago, hypertension, hyperlipidaemia and persistent atrial fibrillation was electively admitted for pulmonary vein isolation (PVI). Limited transoesophageal echocardiogram (TEE) performed prior to PVI showed a highly echogenic structure measuring 0.7×1.35 cm, extending from the right coronary ostium towards the commissure between the right and left coronary cusps. The findings were consistent with part of the previously placed ostial RCA stent protruding into the coronary sinus (figures 1 and 2). It appeared to have been present since percutaneous intervention a year ago at an outside institution and seems to have not caused any mechanical problems to the valves and without any clinical consequences to the patient. The procedure was completed uneventfully and the patient was discharged home. CT for the PVI confirmed the ostial RCA stent protruding into the aorta (figure 3).

We would like to describe a rare finding of a stent protruding into the aorta. TEE imaging of the ostial stents has rarely been described in the literature.1 The differential diagnosis will include vegetation, thrombus, artefact, lipoma, calcification, fibroelastoma, foreign body, intramural haematoma and aortic atheromatous disease.2 3 Aorto-ostial coronary artery lesions are more common in the right than the left coronary artery. Protrusion can happen immediately after the intervention or migration over a period of time.4 Approximately, 1 mm stent protrusion is suggested for management of aorto-ostial lesion. Complications from excessive stent protrusion include stent fracture, difficult reintervention of the coronary ostium, absence of struts re-endothelisation, coronary cusp perforation, severe aortic insufficiency and pulmonary oedema.5–8

Figure 1 Transoesophageal echocardiographic image showing an echo dense “loop” (red arrow) in the ascending aorta in this mid-oesophageal aortic valve long-axis view.

Figure 2 Transoesophageal echocardiographic image showing an echo dense structure (red arrow) in the ascending aorta in this mid-oesophageal aortic valve short-axis view.

Figure 3 CT of the heart showing ostial right coronary artery (RCA) stent protruding into aorta in this vertical long axis coronal view.
In our case, right coronary stent protruded 1.35 cm into the aorta immediately after the index procedure with longest duration (1 year) without causing clinical symptoms in the patient or structural damage to aorta or aortic valve. We will follow the patient closely as an outpatient and might consider using ostial flash balloon for apposition of protruding stent wall against aortic wall if complications were to arise.

Two complications of aorto-ostial stenting are protrusion of the stent into aorta and in-stent restenosis. Our patient did not have in-stent restenosis. If the protruding stent is causing mechanical complications and symptoms in the patient, it can be removed. However, it increases risk of restenosis and coronary artery occlusion due to damage to the intima. Thus, it is recommended to keep the stents intact if possible. If protruding part is causing damage to the aortic valve, trimming can be attempted without bending rest of the stent. Complications from protruding stent can also be prevented by flaring proximal stent struts against aortic wall with help of flash ostial balloon.

Contributors Dr. Agrawal and Dr. Kalvakunta rounded on the patient on the general cardiac floor. Dr. Agrawal and Dr. Kalvakunta performed TEE on the patient. Dr. Ponna helped with the literature search and writing up the case report. Dr. Randhawa helped with writing up the case report.

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