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Congenital right coronary artery fistula into right atrium diagnosed with help of multi-modality imaging

Erciyas D.¹; Ozden Tok O.²; Yurdakul S.¹; Bakan S.²; Goktekin O.²

¹Florence Nightingale Hospital, Cardiology, Istanbul, Turkey

²Memorial Bahcelievler Hospital, Istanbul, Turkey

Introduction: Coronary artery fistula (CAF) is an anomaly in which abnormal connections are present between the coronary artery and the cardiac chambers or a major vessel. It is an uncommon anomaly with an estimated incidence of 1 in 50,000 live births and usually occurs in isolation.

We report a case of CAF into right atrium in a patient who admitted to our outpatient department with dyspnea and fatigue. With help of transthoracic echocardiography (TTE), transesophageal echocardiography (TOE) and cardiac computerized tomography (CCT) we put the definite diagnosis and decided to close this fistula percutaneously with a PDA occluder.

Case:

A 43-year-old male admitted to our outpatient department with complaints of exertional dyspnea and fatigue for 5 years. His physical examination revealed a holosystolic murmur on the aortic valve area. His TTE showed enlarged right heart chambers with a high pulmonary artery systolic pressure (50 mmHg) and a suspicious flow from the aortic root into right atrium. Qp/Qs was 2.1. TOE depicted a shunt between aorta and right atrium as well, we couldn't truly demonstrate the connection though.

In order to define the defect precisely, we performed a cardiac CT. Cardiac CT clearly showed a markedly dilated and mildly tortuous and calcified fistula arising from the ostial part of right coronary artery draining into right atrium. Right coronary artery was thin and there was no stenosis. Cardiac CT helped us to exclude coronary artery disease as well.

As it was suitable to close percutaneously, we decided to close it with a PDA occluder.

Conclusion: CAF is a rare, generally congenital anomaly and may cause right heart chamber dilatation and pulmonary hypertension if the diagnosis is missed. It is important to support and clarify the underlying pathology with help of other cardiovascular imaging modalities like cardiac CT and cardiac magnetic resonance imaging (CMR), if TTE and TOE cannot demonstrate us the exact pathology. In our case our choice of extra method was cardiac CT, as we wanted to exclude accompanying coronary artery disease at the same time. In today's era, the use of multimodality imaging is increasing with a tremendous rate and it helps clinical cardiologists, cardiovascular imaging specialists and interventional cardiologists all.

Abstract P1490 Figure. 2D,3D TOE and CCT images of CAF

