
**Clinical Vignette**

Dual right coronary artery associated coronary artery fistula

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A 43-year-old man was admitted in our hospital for recurrent chest pain, breathlessness, and fatigue on exertion. Primary diagnosis was coronary atherosclerotic heart disease. Detailed physical examination, electrocardiogram (ECG), Chest X-ray, and echocardiography were carried out: BP 165/96 mmHg (1 mmHg = 0.133 kpa), HR 76 b.p.m., the heart on percussion was slightly enlarged to the left, cardiac rhythm was regular, there was a soft (grade II) systolic murmur at the apex, ECG was normal, chest X-ray revealed cardiomegaly and evidence of increased pulmonary vascularity. Echocardiography revealed that left ventricular was enlarged, however the origin and site of termination of coronary artery fistula was not correctly made out. Coronary angiography was done. Left coronary artery was normal (Panel A), dual right coronary artery originated from right coronary sinus and non-coronary sinus, respectively (Panel B), the former was normal and the latter associated coronary artery fistula drained into right atrium. Shunts were large (Panel C).

Coronary artery fistula (CAF) is a rare coronary anomaly, only accounts for 0.2–0.4% of all congenital cardiac defects. It is rare in adults (incidence only 0.1%) than in children. Recently, the reviews of CAF are increasing, but a case of dual right coronary artery associated coronary artery fistula is no reported. The majority of patients with CAF are asymptomatic, especially the children. Symptoms and the complications are increasing with aging. The adults with CAF are more commonly associated with angina, typical chest pain, and dyspnoea, without audible murmur, coronary atherosclerotic heart disease is often misdiagnosed; the diagnosis is mostly incidental during routine coronary angiography. Although symptoms and the complications of CAF are rare, operative closure of coronary artery fistulas is necessary if the patients have severe symptoms and complications.

Panel A. Left coronary artery is normal.
Panel B. Dual right coronary artery originating from right coronary sinus and non-coronary sinus, respectively.
Panel C. Fistula arising from right coronary and draining into right atrium, the arrow shows shunts.

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