Postprandial angina: not always due to stenotic coronary artery disease

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DESCRIPTION

A 68-year-old man presented with history of postprandial angina for 6 months. He was a diabetic and hypertensive for 10 years. He was also a reformed smoker with 20 pack-years history of smoking. He did not give any history of acute coronary syndrome or any cardiac catheterisation. Clinical examination was unremarkable. ECG and chest X-ray were normal. Echocardiography revealed normal left ventricular function with features of left ventricular hypertrophy.

Coronary angiography revealed abnormal spillage of contrast in the left ventricular apical region with each diastole from obtuse marginal (OM) branch of left circumflex coronary artery (LCx) and distal part of left anterior descending coronary artery (LAD) suggestive of coronary–cameral fistula (CCMF) (figure 1, figure 2, online supplementary video 1). Coronary angiography did not show any signs of atherosclerotic coronary artery disease. Absence of dilated communicative fistulous tracts between the coronary arteries and the drainage chamber was suggestive of arteriosinusoidal type of CCMF (online supplementary videos 2 and 3). Patient was managed conservatively.

CCMF is a communication between any of the coronary arteries and any of the cardiac chambers or major vessels like pulmonary artery and coronary sinus. CCMF is a very rare cardiac anomaly, commonly congenital in origin but can also develop as a complication of cardiac trauma during cardiac catheterisation. Most of the CCMF are incidentally

Figure 2 Selective left coronary angiogram, right anterior oblique cranial view showing spillage of contrast (orange arrows) into the left ventricular apical region.

detected during coronary angiography. Vavuranakis *et al* have reported an incidence of 0.1% in the unselected patients undergoing diagnostic coronary angiography.¹ CCMF originates from the right coronary artery (55%), left coronary artery (35%) and both coronary arteries (5%) and commonly drains into the right ventricle (40%), right atrium (26%) and pulmonary arteries (17%). Drainage into the superior vena cava and coronary sinus is rare, and into the left atrium and left ventricle is hardly reported in the literature.²

Mostly CCMF are asymptomatic and the development of symptoms depends on the size of the fistula, site of origin and drainage of the communication tracts. Anginal symptoms are due to coronary steal phenomenon or diastolic overload of the drainage chamber. Other rare complications of Coronary–cameral fistula (CCMF) are thrombosis and embolism, cardiac failure, atrial fibrillation, rupture, endocarditis/endarteritis and arrhythmias.³

Based on the types of the communication, CCMF can be divided into (1) arterioluminal (direct communication with cardiac chambers) and (2) arteriosinusoidal (communication via sinusoidal network into a chamber without a direct communication) subtypes. This differentiation is helpful in determining the management plan. Symptomatic arterioluminal subtype can be successfully closed by surgery or device, whereas arteriosinusoidal subtype is less amenable to surgery and beta blockers can be tried as an alternative.³

Figure 1 Selective left coronary angiogram, right anterior oblique caudal view showing spillage of contrast (orange arrows) into the left ventricular apical region.

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Our case was unique in the following aspects. First, presentation at the age of 68 years is a rare occurrence for a congenital-origin lesion. Second, origin of the coronary-cameral fistula from the OM branch of LCx and distal LAD and draining into the left ventricular cavity are very rare. Our patient had an arteriosinuosoidal type of CCMF so he was initiated on beta-blocker therapy.

Learning points

- ▶ Coronary-cameral fistula, although a rare entity, is an important cause for angina.
- ▶ It originates from the right coronary artery or left anterior descending coronary artery or both coronaries and drains mostly into the right side of heart.
- ▶ Origin from the obtuse marginal branch of left circumflex artery and left anterior descending artery and draining into the left ventricle are very rare.

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