Bilateral Coronary Pulmonary Artery Fistulae

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Abstract

Coronary cameral fistulae are rare and bicoronary pulmonary artery fistulae is even rarer. This is a case of a 70 year old male who presented to us with complaints of chest pain and dyspnoea. His ECG showed ST-T changes in inferior and anterior precordial leads suggestive of ischaemia in those territories. His coronary angiogram revealed bilateral coronary pulmonary arterial fistulae arising from left circumflex and right coronary artery and draining into pulmonary artery without any atherosclerotic narrowing of coronaries.

Introduction

Coronary arterial fistulae were first described in 1865 by Krause with an incidence of 1 in 50000 live births i.e. 0.002% of general population. Approximately half of these fistulae arise from right coronary artery. These fistulae commonly drains into right atrium, right ventricle, pulmonary artery, left atrium, left ventricle and rarely in to superior vena cava with a distinct minority of 5% of total of fistulas have bilateral origin. Most of these coronary arterial fistula; also known as coronary cameral fistulas are asymptomatic and hence are silent. We present a symptomatic coronary cameral fistula to the readers.

Case Report

A 40 year old gentleman with no significant past medical history presented in the casualty with complaints of retrosternal chest pain and exertional breathlessness of 2 days duration. His cardiovascular system examination was non-contributory with normal findings on chest, abdomen and neurological examination. 12-lead ECG showed ST-T changes in inferior and lateral wall territory. 2D echocardiography revealed good biventricular function with no regional wall motion abnormality with minimal mitral valve prolapse without any MR. He was put on antiplatelets, statins, β-blockers. He continued to have pain despite medical management so he was subjected to coronary angiography which showed nonobstructive coronaries but what was unusual was both LCX and RCA was draining into pulmonary artery (Figures 1, 2). His pulmonary artery pressure was 20/10 mm Hg with no septal defects and with a Qp / Qs of 1.2.

Discussion

Coronary artery fistulae are the most frequent haemodynamically significant congenital malformations of coronary circulation comprising 14% of congenital coronary artery anomalies. A significant proportion of coronary arterial fistula are acquired because of intravascular and interventional procedures. A coronary artery to pulmonary artery fistula may result from persistence of one or more of the pulmonary arterial anlagen. Normally pulmonary to systemic flow ratio are typically small. Shunts in excess of 2:1 are unusual and myocardial ischaemia occurs when a coronary artery fistula function has a low resistance pathway that causes coronary steal. A coronary steal may induce ischaemic ST segment and T wave changes at rest or during stress. These fistulae have wide range of presentation including asymptomatic patients or symptoms in the following order of frequency i.e. dyspnea, myocardial ischaemia, heart failure, sudden death, infective endocarditis and rupture. Sometimes these fistulae may need percutaneous or surgical interventions, otherwise most of the time medical management suffices. Our case had chest pain as well as breathlessness. The patient was managed conservatively with beta-blockers and is doing well on follow ups till date.

References


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