



ISSN: 0976-3031

Available Online at <http://www.recentscientific.com>

CODEN: IJRSFP (USA)

International Journal of Recent Scientific Research
Vol. 9, Issue, 7(F), pp. 28153-28154, July, 2018

**International Journal of
Recent Scientific
Research**

DOI: 10.24327/IJRSR

Research Article

A CASE OF CORONARY ARTERY TO PULMONARY ARTERY FISTULA

**Bandara H.G.W.A.P.L*., Jegavanthan A., Kogulan T., Jayasekara N.M.T.C.,
Sirisena T.S., Weerakoon W.M.G and Kularatne A**

Cardiology Unit, Teaching Hospital Kandy, Sri Lanka

DOI: <http://dx.doi.org/10.24327/ijrsr.2018.0907.2404>

ARTICLE INFO

Article History:

Received 09th April, 2018
Received in revised form 25th
May, 2018
Accepted 18th June, 2018
Published online 28th July, 2018

ABSTRACT

Coronary arteries to pulmonary artery fistulous connections are rarely reported structural anomalies of the coronary circulation, and here we report an interesting case of such a connection in a patient with mitral valve prolapse

Key Words:

Coronary artery fistula, Coronary angiography, Mitral valve prolapse

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INTRODUCTION

Background

One of a rare congenital malformation of the coronary arteries is the development of fistulous connection in the coronary circulations having a prevalence of 1% to 2% of the population [1]. One of such an abnormality is the development of coronary artery to pulmonary artery fistula and most of these patients remain asymptomatic, but symptoms and complications may develop with time. In addition to making angiographic visualization of these coronaries are challenging, those may also increase the risk of unexpected coronary artery injuries during surgical interventions. Moreover, some of these anomalies may also produce varying degree of myocardial ischemia [2] as well.

Case report

A 55 years old gentleman was referred for evaluation of progressive worsening of exertional dyspnea over several months. Physical examination revealed a pan-systolic murmur over a thrusting apex. Electrocardiography showed rapid atrial fibrillation. A detailed transthoracic echocardiography showed holosystolic Mitral Valve Prolapse (MVP) with severe Mitral Regurgitation (MR) and a dilated left atrium. His left and right ventricular functions were preserved though having moderate

pulmonary hypertension. More interesting echocardiographic findings were found at the parasternal short axis view with a large left main stem, and dilated Main Pulmonary Artery (MPA) with a continuous flow of color Doppler signal arising from a tiny entry site on the wall of the main pulmonary artery (*Figure A*). Cardiac catheterization with selective left coronary angiography revealed a fistula connecting the proximal portion of the left anterior descending coronary artery into the MPA (*Figure B*). Rest of the coronary arteries were free of disease. He was planned for mitral valve replacement and surgical ligation of the fistula.

DISCUSSION

Though this type of fistulous connections from coronary arteries to pulmonary arteries are rarely reported, the associated co-existence of MVP with severe MR is even rare to find. The hemodynamic interest of this particular situation is the potential adverse effect of the coronary flow dynamics once the pulmonary pressures rises as a result of MR. Hence that, early surgical intervention for valve disease is warranted.

*Corresponding author: **Bandara H.G.W.A.P.L**
Cardiology Unit, Teaching Hospital Kandy, Sri Lanka

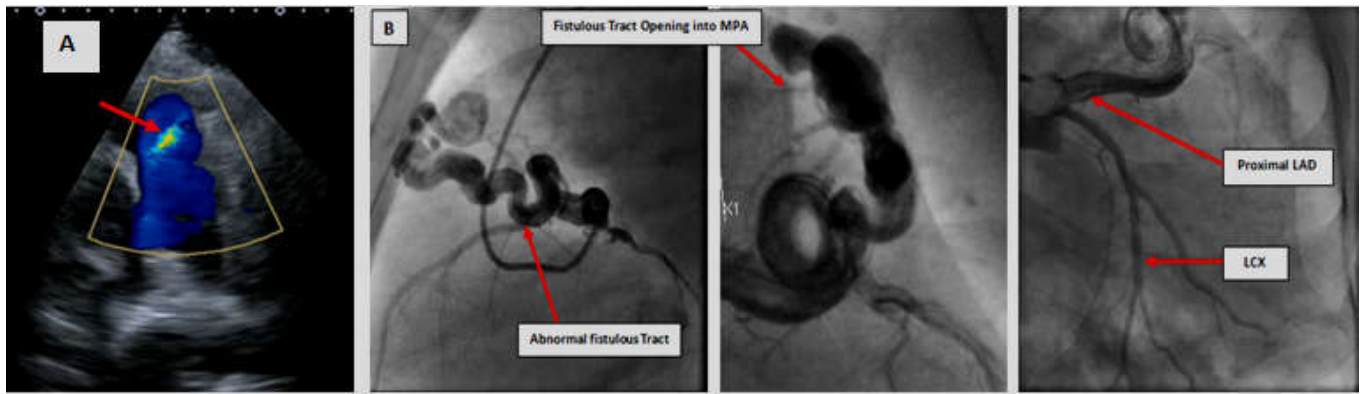


Figure A: Transthoracic echocardiogram illustrating the Doppler signal of the fistulous connection
Figure B: Conventional coronary angiogram illustrating the anatomy of the coronary artery to MPA fistula

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How to cite this article:

Bandara H.G.W.A.P.L. et al. 2018, A Case of Coronary Artery to Pulmonary Artery Fistula. *Int J Recent Sci Res.* 9(7), pp. 28153-28154. DOI: <http://dx.doi.org/10.24327/ijrsr.2018.0907.2404>
