

Rare Case Report of Coronary Cameral Fistula in a Patient with Coexisting Rheumatic Mitral Stenosis

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Abstract: Coronary cameral fistulas are a rare congenital condition characterized by an abnormal connection between a coronary artery and a cardiac chamber. Fifty-five percent of CCFs originate from the right coronary artery, 35% from the left coronary artery, and 5% from both. More than 90% of them drain into the venous system and low pressure sites such as the right ventricle (41%), right atrium (26%), pulmonary artery (17%) and only 3% drain into the left ventricle or atrium. We present a case of 51 year male a case of severe Mitral Stenosis with Mild Mitral Regurgitation who was planned for Mitral Valve Replacement who underwent Coronary Angiography as a part of routine preoperative workup was incidentally detected to have Coronary Cameral Fistula draining from Left Anterior Descending artery to Left Atrium.

Keywords: Rheumatic Heart Disease, Mitral Stenosis, Coronary Cameral Fistula

1. Introduction

Coronary cameral fistula is a rare malformation of coronary arteries, with abnormal connection from coronary arteries to any of the cardiac chambers [1]. Most commonly CCF drains to the right sided chambers or great vessels amounting to 90% patients and only rarely are known to drain into the left sided chambers [2]. CCF's mostly arise from the Right Coronary artery and only about 40% arise from the left system [2].

RF/RHD is the result of autoimmune response triggered by Group A Beta hemolytic streptococcal pharyngitis [3]. Here we present a case of a 51- year male who is a known case of RHD with severe MS, Moderate MR and Severe TR with LA clot planned for Mitral valve replacement with LA clot removal with Tricuspid valve annuloplasty. The patient underwent coronary angiogram as a routine preoperative workup and was incidentally detected to have a small

Coronary cameral fistula arising from LAD and draining into Left Atrium.

2. Case Presentation

A 51 year male Non Diabetic Non Hypertensive case of RHD Severe MS (with a mitral valve area of 0.9cm² and a peak gradient across mitral valve of 16mmHg) with Severe TR, Planned for Mitral Valve replacement. The patient underwent Coronary Angiogram as part of routine preoperative workup. The patient underwent CAG via Right Femoral Route. The patient was incidentally detected to have a sinusoidal variety of Coronary Cameral Fistula draining from LAD to Left Atrium.

In view of the fistula being small and hemodynamically insignificant the patient was advised medical management. The patient underwent Mitral Valve Replacement and made a full perioperative recovery.



Figure 2: Angiography shows Coronary Cameral Fistula draining from LAD to Left atrium.

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3. Discussion

Coronary Cameral Fistula is a rare condition marked by an abnormal communication of Coronaries with any chamber of heart without going through capillary circulation [1]. This condition can have varied presentation ranging from asymptomatic in small fistulas to Decompensated cardiac failure in large fistulas and sometimes can be clinically identified as a continuous murmur. The mode of treatment in these patients vary from medical management, Percutaneous transcatheter closure and Surgical ligation [5]. Closure is also recommended for large fistulas (≥ 2 times the diameter of the coronary artery of origin), irrespective of symptoms [4].

RF/RHD is the result of autoimmune response triggered by Group A Beta hemolytic streptococcal pharyngitis [3]. The incidence of RHD in India continues to be high despite aggressive preventive measures for control of this condition.

Mitral valve is the commonest valve affected in RHD with, RHD being the commonest cause of Mitral Stenosis atleast in the developing world. Mitral valve interventions both percutaneous and surgical have increased in the recent times. In elderly patients it is common to undergo Coronary Angiogram prior to surgery to define Coronary Artery Disease. Such angiograms rarely show findings that were not expected on clinical examination and may require additional investigations or interventions.

In our case a middle-aged male with Rheumatic Mitral Stenosis was planned for Mitral valve Replacement was incidentally detected to have a small Coronary Cameral Fistula which was arising from LAD and draining into Left Atrium. The fistula was very small to be of hemodynamic significance and hence was managed conservatively.

The patient underwent MVR however during the procedure the fistula could not be visualized probably due to the extremely small size.

4. Conclusion

In conclusion small Coronary Cameral Fistulas can be managed conservatively provided they are hemodynamically insignificant. However, decision for management should take into consideration confounding factors so as to minimise unnecessary interventions.

Declarations:

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Compliance with ethical standards

Conflict of interest: The author declares that he has no conflict of interest.

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