

Fistulous Communication Between the Left Atrium and Coronary Sinus: A Rare Case from Nepal

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ABSTRACT

Left atrium and coronary sinus fistulous connection is rare anomaly with devastating consequence leading to alteration in hemodynamic of blood flow. We present a case of 50 years old male who presented for evaluation of chest pain whose TMT was positive for reversible ischemia and coronary CT showed abnormal connection between coronary sinus and left atrium.

KEYWORDS: Coronary sinus, Left atrium and fistula.

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INTRODUCTION

Acute coronary syndrome is common in the adult population. Rarely abnormal communication between coronary venous systems can present with chest pain of unknown etiology. Knowledge about the coronary venous system is also important before any coronary intervention as it is an important access point for the placement of cardiac pacemakers and defibrillators. Coronary CT angiography provides detailed anatomical information about the location. Abnormal communication between the coronary sinus to the left atrium can be detected through a CT angiogram. We present a clinical presentation, and diagnostic approach in the evaluation of abnormal communication with coronary sinus and left atrium in this case report.

CASE PRESENTATION

A 50-year-old male presented to the cardiology clinic with a complaint of chest pain on exertion for 3 years. Patient with exertion and heavy work. Pain gets better with rest but occasionally experience pain at rest. He is a known case of hypertension. The patient denies a history of smoking,

hypercholesterolemia, and diabetes mellitus. The patient was evaluated for chest pain on multiple occasions at various hospitals. No conclusive evidence of chest pain was detected. Physical examination was normal. With suspicion of angina, the patient was evaluated with a lipid panel, ECG, Echocardiography, and basic lab test. All the tests were negative. Further evaluations were done and TMT was ordered which was positive. With the diagnosis of angina and to know more about coronary artery anatomy and stenosis, a CT coronary angiogram (CCTA) was sent. CCTA showed normal coronary artery lumen without calcification and plaque with evidence of an approximately 1.5mm caliber bridging vein arising from the right anterior aspect of the left atrium and opening into the coronary sinus and a small accessory left atrial appendage. The patient was managed conservatively and the anatomy will be an important consideration in the future if the patient needs coronary angioplasty.

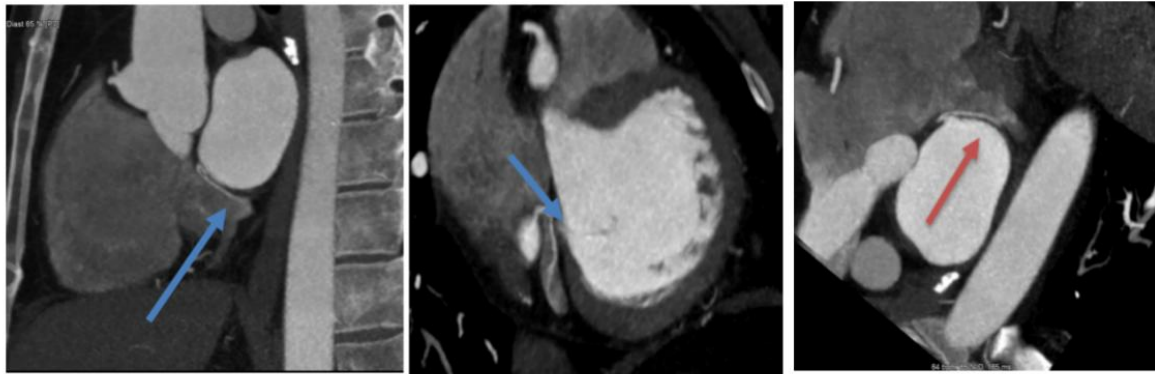


Figure 1, 2 & 3, 1) Sagittal 2) Oblique coronal 3) Oblique axial: Small bridging vein is seen arising from right anterior aspect of left atrium which is seen opening into coronary sinus.

DISCUSSION

There is paucity of literature on the coronary venous system. (1)The CS ostium lies in the right atrium. Its anomalies are rare accounting for <1%. Coronary artery fistulas are even rarer diseases that occur in 0.002% of the general population and account for 0.1% of coronary anomalies. (2) It is often congenital. Coronary artery fistulas have different clinical symptoms which is related to their size, origin, drainage, and associated conditions of the fistula. However, most of these are asymptomatic and found incidentally. (3)Rarely, these can lead to ischemic symptoms and aneurysms.(3,4)CS anomalies can be diagnosed by coronary CT imaging with delayed phase to allow for contrast attenuation of the venous circulation, magnetic resonance imaging or even with invasive angiography. (1)These usually do not require intervention. Nevertheless, in cases with CS sinus anomaly and persistent atrial fibrillation despite pulmonary venous isolation, coronary sinus ablation can be considered as a therapeutic option.Surgical or transcatheter closure of the fistula can also be considered as a therapeutic option. (5)Defining the origin, drainage, and number of fistulas and determining if there are conditions associated with clinical symptoms guides treatment planning. Coronary CT angiography helps to provide a roadmap to guide intervention (if needed) and is a noninvasive method for follow-up.

CONCLUSION

Fistulous communication between the left atrium and coronary sinus are one of the cause for chest pain which can be managed conservatively or with closure depending of patient symptoms and size of communication.

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