

Dual Coronary- Cameral Fistula “Double the trouble”

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Abstract

A patient presenting with worsening dyspnea and left-sided chest pain underwent heart catheterization, found to have a rare connection between the right and left coronary arteries draining into the left ventricle, consistent with dual coronary-cameral fistula.

Dual Coronary- Cameral Fistula

“Double the trouble”

Key clinical message:

Coronary cameral fistulas are a type of coronary fistula that drain into the atria or ventricles. They can present with ischemic chest pain or heart failure symptoms.

Abstract:

A patient presenting with worsening dyspnea and left-sided chest pain underwent heart catheterization, found to have a rare connection between the right and left coronary arteries draining into the left ventricle, consistent with dual coronary-cameral fistula.

Case presentation:

An 80-year-old male with a history of diabetes-mellitus presented with worsening dyspnea and chest pain. The nuclear stress test was positive for ischemia in the basal inferoseptal/basal inferior, and septal walls. Coronary angiogram showed mild coronary artery disease, however noted coronary-cameral fistulas (CCF) arising from both the right coronary artery (RCA) and left anterior descending artery (LAD) (Figure AB. Video 1& 2). We conclude his symptoms are related to the significant coronary to left ventricle (LV) shunt due to these dual coronary fistulas. The patient was deemed not suitable for closure of the fistulae due to small/multiple fistulae and therefore was managed conservatively.

Discussion:

Coronary artery fistulae (CAF) are rare abnormal connections of the coronary artery to another artery or heart chamber. Fistulas are mostly congenital in origin but can be acquired. Around 55% of cases involve the RCA and about 35% involve the left coronary arteries. The majority of CAF connect with the right ventricle or atria, while only around 3% connect into the LV. Here we present a rare case where two coronary arteries, the RCA and LAD, create fistulas with the LV cavity, consistent with dual CCF. Most cameral fistulas are benign; however, they can cause ischemia due to the coronary steal phenomenon. Other complications include diastolic volume overload related heart failure, endarteritis and arrhythmias. Depending on the size of the fistula medical, surgical and percutaneous options have been utilized.

References:

Mansour MK, Nagalli S. Coronary Cameral Fistula. 2020 Aug 10. In: StatPearls [Internet]. Treasure Island (FL): StatPearls Publishing; 2021 Jan-. PMID: 31985992.

Nepal S, Annamaraju P. Coronary Arteriovenous Fistula. 2020 Dec 14. In: StatPearls [Internet]. Treasure Island (FL): StatPearls Publishing; 2021 Jan-. PMID: 32119505.

Figures:

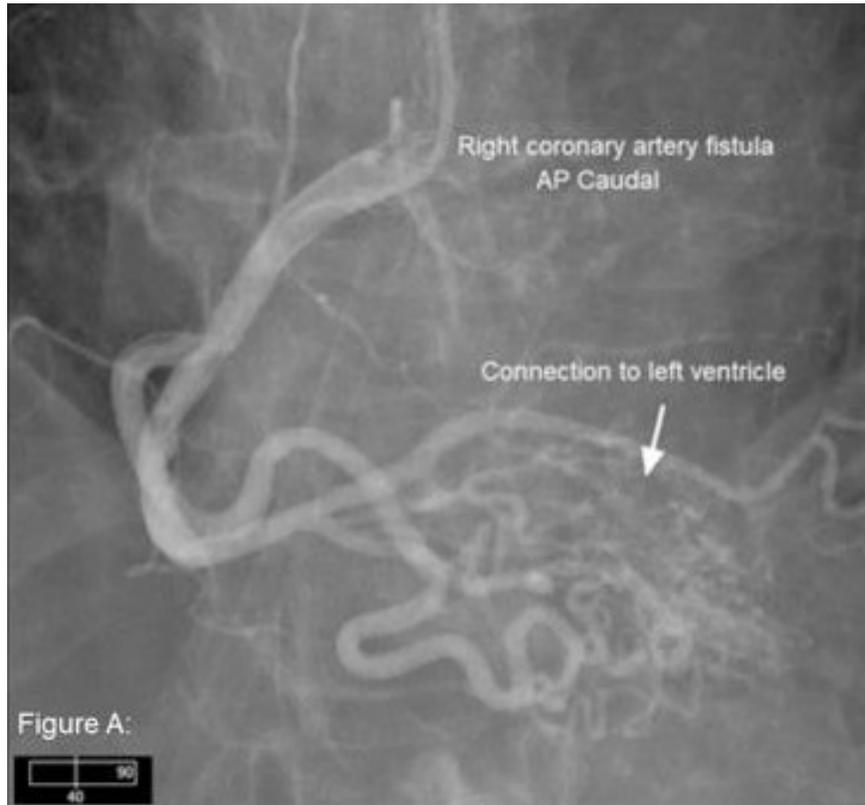


Figure A: Antero-posterior caudal view of right coronary artery, showing highly tortuous distal artery and terminating to numerous small fistulas draining into the left ventricle.

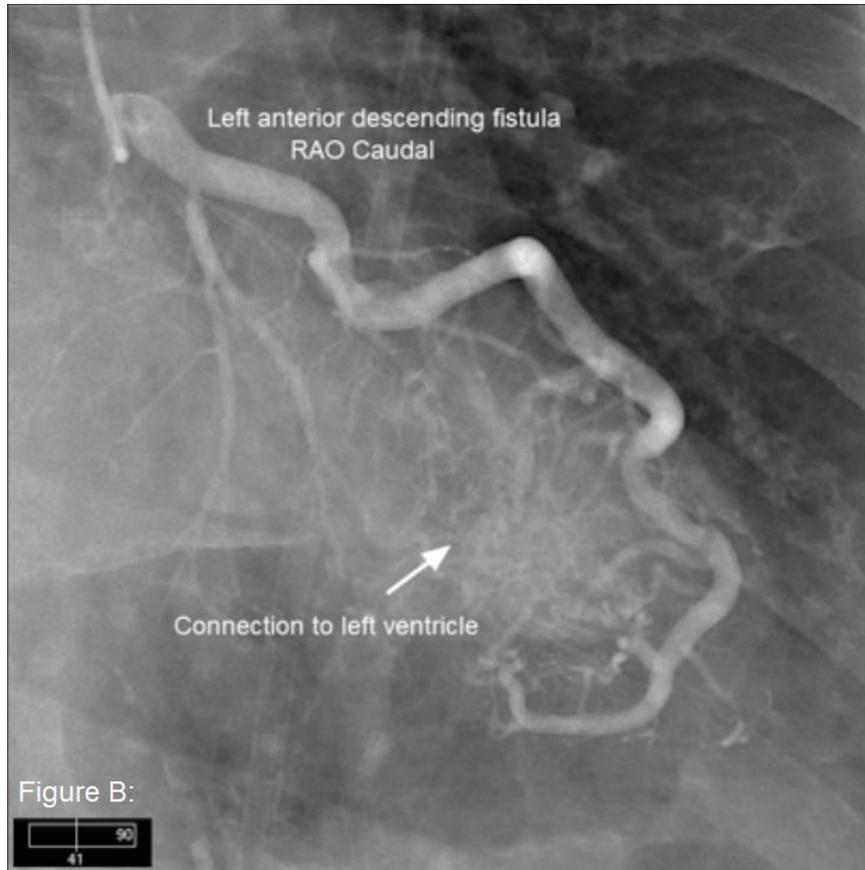


Figure B: Right anterior-oblique caudal view of left anterior descending artery, showing highly tortuous distal artery and terminating to numerous small fistulas draining into the left ventricle.