

An Unusual Case of a Single Ostium Coronary Anatomy

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A 33-year-old female with no medical history presents for evaluation of mild exertional chest tightness and dyspnea. The patient underwent an exercise electrocardiogram stress test that revealed chest tightness and significant dyspnea on stage 2 of the Bruce protocol with frequent exercise-induced premature ventricular contraction. Her transthoracic echocardiogram was normal. Cardiac catheterization showed the right coronary artery arising from the mid-left anterior descending artery (Fig. 1). No substantial stenosis was noted in any coronary arteries. Coronary computed tomography confirmed an anomalous origin of the right coronary artery from the left anterior descending artery at the midlevel, with a prepulmonic course (Fig. 2 and Fig. 3). The patient was started on metoprolol and experienced complete resolution of symptoms.

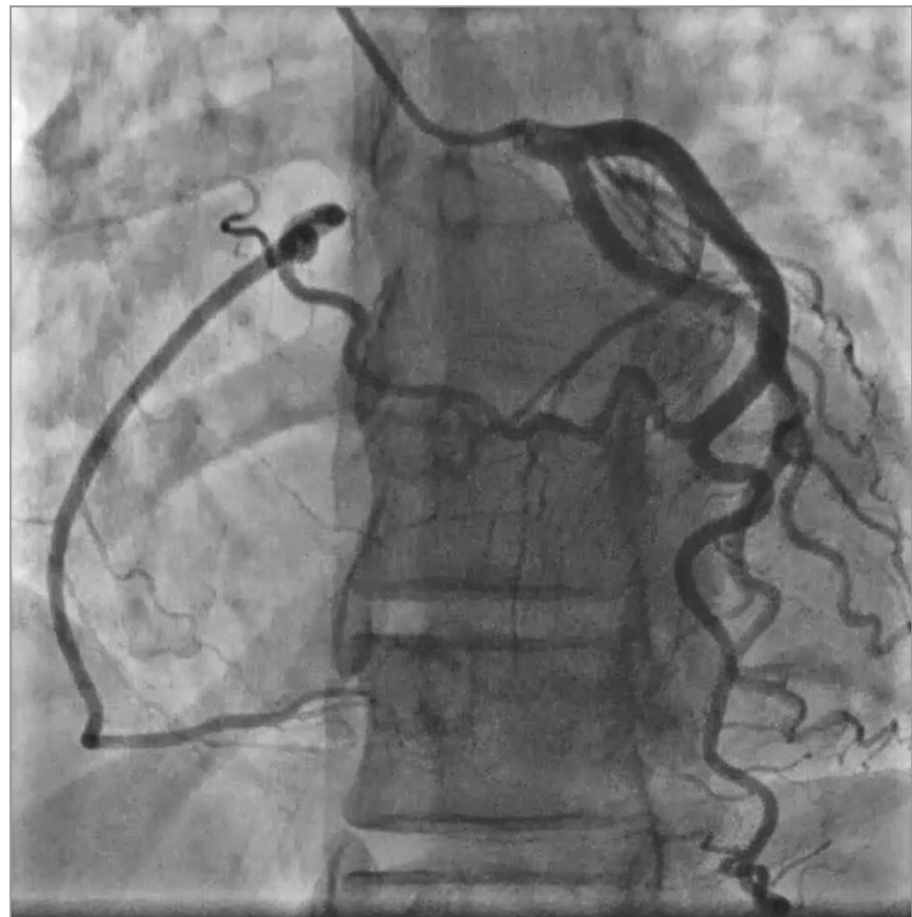


Fig. 1 Coronary angiogram showing right coronary artery descending from the mid-left anterior descending artery with no significant coronary artery disease.

Supplemental motion image is available for Figure 1.

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Fig. 2 Computed tomography coronary angiogram 3-dimensional reconstruction, showing anomalous origin of the right coronary artery from the left anterior descending artery at the midlevel, with a prepulmonic course.

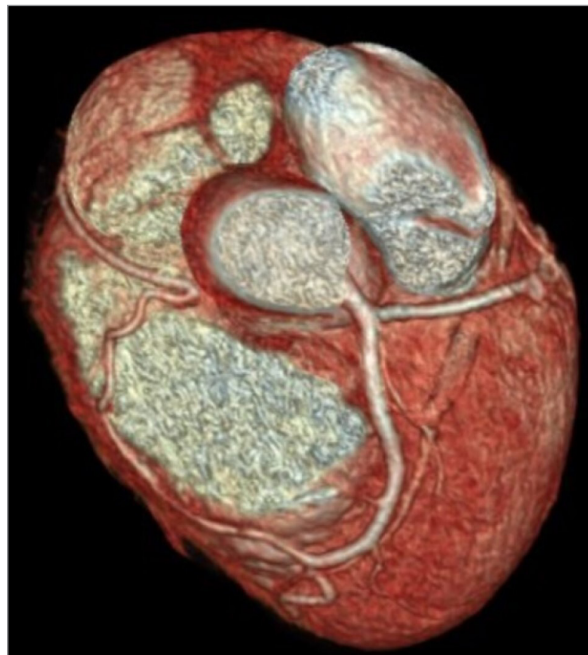


Fig. 3 Computed tomography coronary angiogram 3-dimensional reconstruction, showing anomalous origin of the right coronary artery from the left anterior descending artery at the midlevel, with a prepulmonic course.

Comment

Single ostium coronary circulation is a rare entity, with an estimated incidence between 0.024% and 0.066% among patients undergoing routine coronary catheterizations.¹

Single ostium coronary circulation can be an isolated finding or can be associated with other congenital anomalies. Patients are usually asymptomatic but may present with myocardial ischemia, syncope, or sudden cardiac death.²

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