INTRODUCTION

Echocardiographic assessment of the coronary arteries is an important component of cardiovascular evaluation, but detection of a coronary artery anomaly (CAA) remains a challenge. CAAs are most often classified into abnormalities of origin, distribution, or termination and are found in 0.2–1.6% of those undergoing coronary angiography [1,2]. Anomalous origin of left coronary artery (LCA) is 6 to 8 times less common than that of right coronary artery (RCA). In this report, we present an anomalous origin of the left main coronary artery (LM) from the RCA diagnosed by routine transthoracic echocardiography (TTE).

CASE REPORT

A 42-year-old woman with no cardiovascular risk factors was admitted to the internal medicine department for evaluation of atypical chest pain. There was no reported history of lightheadedness, dizziness, or syncope. Physical examination, biochemical values, and electrocardiography (ECG) were normal. The patient underwent a cycle stress test with no ischemic changes on ECG and no angina. TTE revealed normal left ventricular systolic function with no segmental kinetic abnormalities and an anomalous coronary arising from the right coronary artery is an extremely rare anomalous coronary anomaly. Echocardiographic assessment of coronary arteries is an important component of routine cardiovascular evaluation, but detection of an anomalous coronary origin remains a challenge to operators. We report a case of a 42-year-old woman presenting to the hospital with atypical chest pain for whom echocardiographic evaluation revealed a coronary artery anomaly.

DISCUSSION

CAAs are generally silent and usually diagnosed accidentally during coronary angiography or autopsy [3]. An LM originating from the right sinus of Valsalva as a separate vessel or as a branch of a single coronary artery is an extremely rare anomaly, with an incidence up to 0.11%, and represents a life-threatening form of congenital pathology [4]. Five types have been described according to relationships with the aorta and pulmonary artery.
Precise images of anomalous anatomy are essential to appropriate management of the condition. Although coronary angiography is typically used, CT angiogram should be the method of choice to detect and classify CAA anatomy. Despite the previously mentioned methods, TTE remains the first-line examination due to its availability and non-invasive nature. Identification of the origins and proximal courses of the coronary arteries may often be achieved with TTE. The parasternal short-axis view at the base of the heart is the best to determine both the relationship of the origin of the LM to the zone of apposition between the aortic valvular leaflets guarding the coronary

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aortic sinuses and its relationship to the right ventricular outflow tract. Due to extreme translation of the coronary arterial origins during the cardiac cycle, the excellent temporal resolution of echocardiography compared with that of other noninvasive techniques makes this the diagnostic technique of choice in most cases. Even though it is not common in daily practice, the origin of the coronary artery was identified by Labombarda et al. [6] in 91% of young adults, and more than half of the patients had undergone at least one TTE before the CAA was discovered. According to this data, CAA is underdiagnosed. In the present case, the coronary artery origin and course were well identifiable. This study was performed by operators experienced in analysis of coronary arteries. In conclusion, anomalous origin of the LM from the RCS is a rare condition. Coronary anatomy should be carefully analyzed with TTE; when CAA is suspected, CT angiogram should be performed.

Conflicts of Interest

The authors have no potential conflicts of interest to disclose.

REFERENCES