

Late angina due to anomalous Right Coronary Artery

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Introduction: Anomalous origin of the right coronary artery arising from the left coronary sinus and taking an interarterial course between the great vessels is a rare diagnosis, with a reported incidence between 0.026% and 0.250%. While most cases are asymptomatic, the anomalous right coronary artery is typically diagnosed incidentally. However, this abnormal anatomy of the right coronary artery renders it vulnerable to compression between the right ventricular outflow tract or pulmonary artery and the aorta. This compression can potentially manifest as angina, arrhythmias, and sudden cardiac death. We report a case with this rare diagnosis that presented atypically with angina, mainly at rest, and had a late presentation at an older age.

Case Presentation: A 46-year-old female presented to the Emergency department (ED) with a year-long history of intermittent episodes of nocturnal retrosternal chest pain, radiating to the jaw, neck and arm that were severe enough to disrupt her sleep. These episodes worsened progressively over time, leading to multiple office and ED visits for the patient. Notably, the patient did not report any symptoms with exertion or activity. The cardiac workup, including ECG, troponins and echocardiogram, yielded benign results. The patient also underwent a nuclear stress test with low-risk result. The coronary CT angiogram revealed an anomalous right coronary artery arising from the left coronary sinus, with compression of the proximal right coronary artery occurring between the right ventricular outflow tract/proximal pulmonary artery and the aorta.

Conclusion: This case adds to the spectrum of atypical presentations occurring from the anomalous right coronary artery. A concrete understanding of the symptomatology and signs will raise the suspicion of this rare diagnosis among physicians. This will eventually help them to make an early diagnosis and intervene early to prevent malignant arrhythmias and sudden cardiac death among these patients.