

## Right Place, Wrong Artery: Anomalous Left Main Coronary Artery Uncovered by Angina

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### INTRODUCTION

Congenital anomalies of the coronary arteries are a rare cause of cardiac symptoms and sudden death. An anomalous origin of a coronary artery from the opposite sinus of Valsalva (ACAOS) is an important variant and can be life-threatening.

### CASE REPORT INFORMATION

A 72-year-old male presented with atypical chest pain. Nuclear stress test showed reversible ischemia. Cardiac catheterization showed a left main coronary artery arising from the right coronary cusp. Angiography showed left main artery gave rise not only to the left anterior descending and left circumflex arteries but also to the right coronary artery (RCA), essentially forming a single point from which all three major coronary branches arose.

### INTERVENTION

RCA had >90% stenosis, likely causing the patient's symptoms. Patient was referred for coronary artery bypass grafting (CABG) at an outside hospital for definitive management.

### DISCUSSION

Anomalous coronary arteries are uncommon but clinically significant. An anomalous origin of the left main from the right coronary cusp may follow different courses, including interarterial, intraseptal, or posterior paths. The interarterial course is considered high risk due to potential compression between the aorta and pulmonary artery. Such complex anatomical case may likely require surgical treatment.

### REFERENCES

- [1] Marler AT et al. Anomalous Left Main Coronary Artery: Case Series and Literature Review. *Case Rep Vasc Med*. 2013([pmc.ncbi.nlm.nih.gov](https://pubmed.ncbi.nlm.nih.gov/24111111/)).
- [2] Yamanaka O, Hobbs RE. Coronary artery anomalies in 120,000 patients undergoing coronary arteriography. 1990([pmc.ncbi.nlm.nih.gov](https://pubmed.ncbi.nlm.nih.gov/21111111/)).
- [3] Slim AM et al. Anomalous origin of the left coronary artery from the right sinus: insights from imaging techniques.

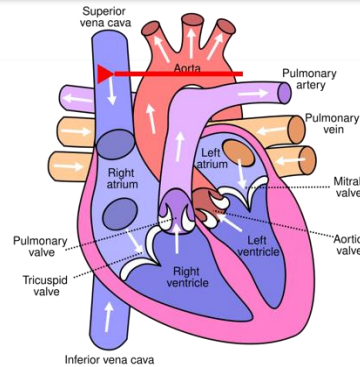


Illustration showing an anomalous left main coronary artery originating from the right coronary cusp (red arrow) and coursing between the aorta & pulmonary artery.

The arrow indicates the aberrant course from the right sinus across the aorta toward the left coronary system, passing between the aorta and pulmonary artery.

Advanced imaging modalities are essential for identifying high-risk coronary anomalies. Even among anatomically high-risk variants, optimal medical therapy may lead to symptom resolution and excellent patient outcomes.