Received: 23 May 2023 | Accepted: 25 May 2023

DOI: 10.1002/emp2.12996

JACEP OPEN
JOURNAL OF THE AMERICAN COLLEGE OF EMERGENCY PHYSICIANS OPEN
A GLOBAL JOURNAL OF EMERGENCY MEDICINE
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Cardiovascular

Young man collapses while playing softball

Travis B. Goodloe III MD | **Matthew A. Heimann MD**

Department of Emergency Medicine, University of Alabama at Birmingham, Birmingham, USA

Correspondence
Travis B. Goodloe III, MD , University of Alabama at Birmingham, Department of Emergency Medicine, 205 General Services Building, 521 19th Street, South Birmingham, AL 35233, USA.
Email: tgoodloe@uabmc.edu

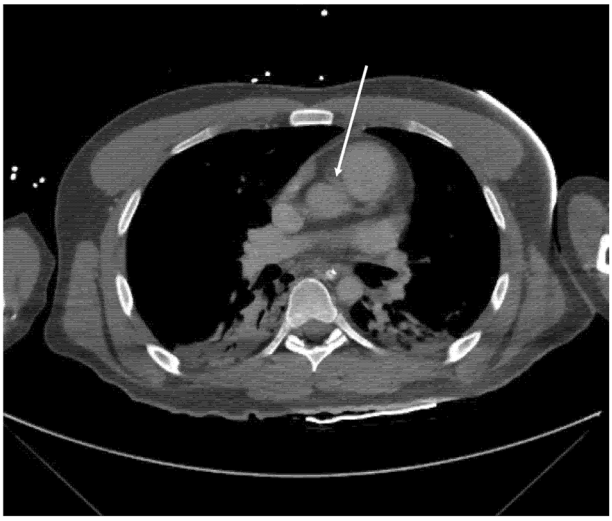

FIGURE 1 Computed tomography of the chest with contrast demonstrating an aberrant coronary artery (white arrow).

1 | PATIENT PRESENTATION

A 33-year-old male with no known past medical history presented to the emergency department (ED) after sustaining an atraumatic, ventricular fibrillation cardiac arrest while running the bases after hitting a home run during a softball game. Cardiopulmonary resuscitation with defibrillation was performed and return of spontaneous circulation was established. The patient arrived at the ED agitated, not following commands, and required intubation. Computed tomography (CT) of the chest with contrast (Figure 1) was obtained that demonstrated an aberrant coronary artery.

2 | DIAGNOSIS

2.1 | Sudden cardiac arrest secondary to anomalous left anterior descending artery

The patient underwent a dedicated CT angiography (CTA) of the coronary arteries (Figure 2A, B) showing an anomalous, second left anterior

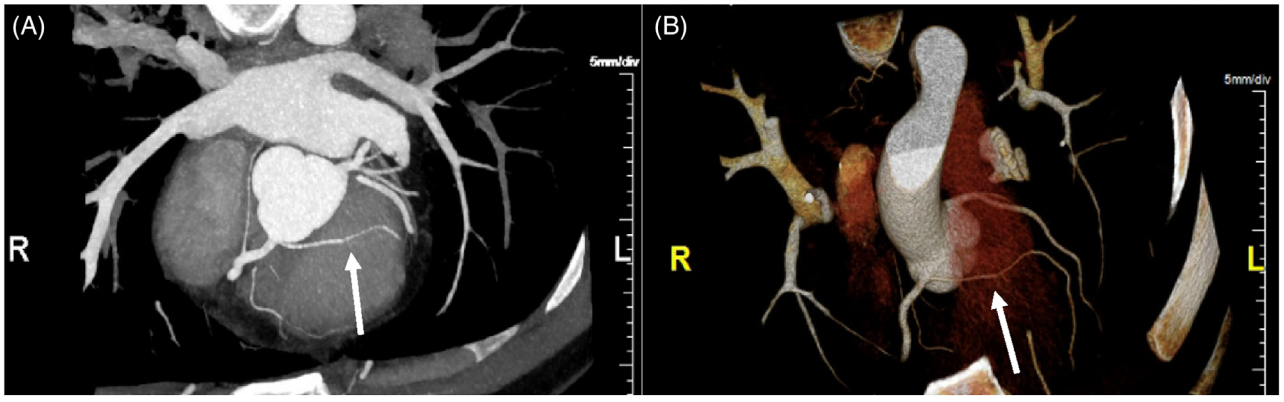

FIGURE 2 (A) Coronary CT angiography with anomalous left anterior descending system arising from the right coronary artery cusp (white arrow) (B) Coronary CT angiography reformat showing anomalous left anterior descending artery arising from the right coronary artery cusp (white arrow). CT, computed tomography.

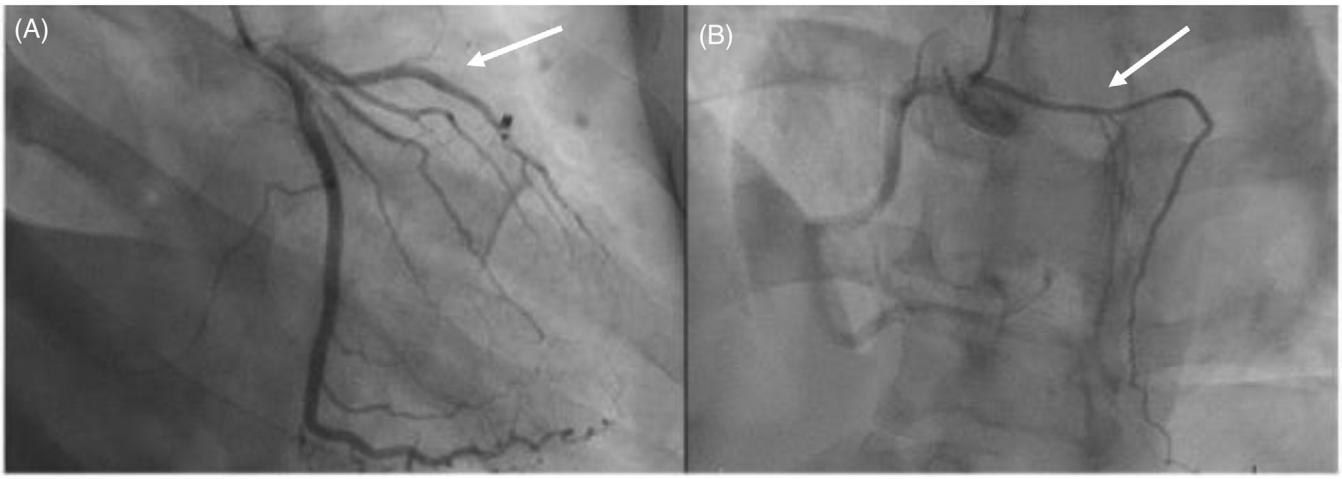

FIGURE 3 (A) Left heart catheterization showing short yet normal caliber left anterior descending artery from the left main coronary artery (white arrow) (B) Left heart catheterization showing anomalous, long, thin caliber left anterior descending artery arising from the right coronary artery cusp (white arrow).

descending (LAD) artery arising from the right coronary cusp.[1] Anomalous coronary artery origin is rare with an incidence ranging from 0.17% in autopsy cases to 1.2% in angiographically evaluated cases.[2] Heart catheterization subsequently confirmed no coronary arterial disease and confirmed the anatomic aberration (Figure 3A, B). The patient underwent surgical repair with coronary artery bypass grafting.[3] He recovered well, was discharged from the hospital five days later, and returned to normal activities.

Anomalous LAD anatomy is a rare cause of cardiac arrest but should remain on the differential, especially in young patients. A dedicated coronary CTA is paramount to the diagnosis and coronary bypass grafting is the definitive treatment.

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How to cite this article: Goodloe TB, Heimann MA. Young man collapses while playing softball. *JACEP Open*. 2023;4:e12996. https://doi.org/10.1002/emp2.12996