



Research Letter

Anomalous origin of left circumflex artery from aorta and left anterior descending coronary artery myocardial bridge: An unusual association between two coronary artery anomalies



To the Editor,

Coronary artery anomalies are generally reported to be about 1% based on adult angiographic series.^{1,2} The origin and course anomalies may be discovered as incidental findings during diagnostic process for other disease or on the basis of signs of myocardial ischemia.³ Some non-invasive technique would be helpful in rule out the diagnosis. Echocardiography provides information on the origin and proximal course of main vessels, but it is affected by the quality of the acoustic window. Computed tomography coronary angiography (CCTA) is a non-invasive tool

that permits direct visualization of coronary epicardial arteries. Despite being mostly asymptomatic, clinical presentation in adults may results from myocardial ischemia, angina, syncope, arrhythmias and even sudden death.⁴ A 39-year-old male patient with no risk factors was referred to our center with history of palpitations due to paroxysmal atrial fibrillation. The patients clinical examination was normal. Also the resting electrocardiogram was normal. A transthoracic echocardiogram revealed an anomalous proximal course of left circumflex artery. An enhanced coronary computer tomography angiography (CTA) with prospective ECG-gating was performed to evaluate the coronary arteries. It showed absence of the common left trunk and separate origin of left circumflex artery directly from aorta. Also a myocardial bridge was localized in the middle segment of the left anterior descending coronary artery. (Fig. 1) The exercise ECG revealed no chest pain and no significant ST-segment depression. We decided to start a conservative treatment with propafenone (325 mg bid). The patient remained asymptomatic after one year of follow-up.

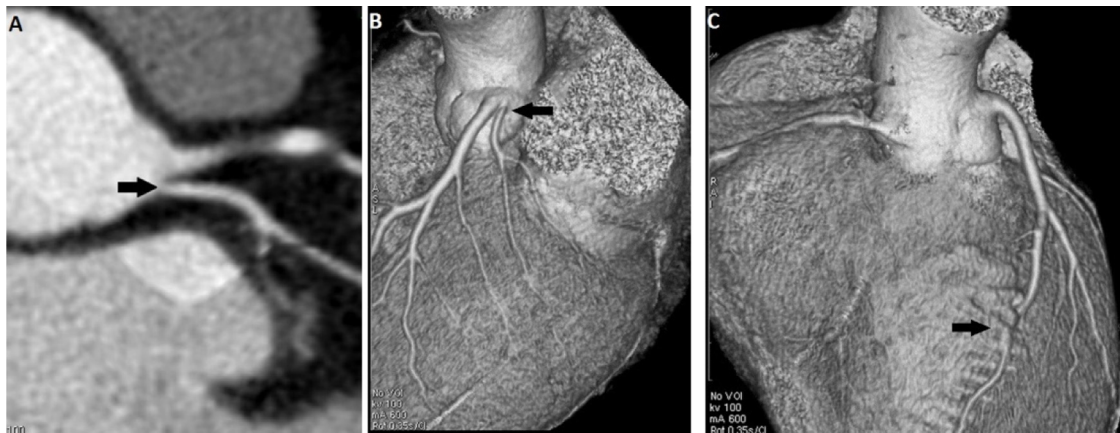


Fig. 1. Coronary CTA: a. Multiplanar reconstruction image in a *para*-axial plane showed origin of LCA directly from aorta. b,c. Three-dimensional volume rendering images better depicted absence of common left trunk (arrow), independent origin of LCA (b), and myocardial bridging (arrow) in the middle segment of LAD (c).

References

1. Zhang LJ, Yang GF, Huang W, et al. Incidence of anomalous origins of coronary artery in 1879 Chinese adults on dual-source CT angiography. *Neth. Heart J.* 2010;(18):466–470.
2. Yamanaka O, Hobbs RE. Coronary artery anomalies in 126,595 patients undergoing coronary arteriography. *Cathet. Cardiovasc. Diagn.* 1990;21:28–40.
3. Riganelli G, Dell'Avvocata F, Van Tan N, Daggubati R, Nanijundappa A. Congenital coronary artery anomalies silent until geriatric age: non-invasive assessment, angiography tips, and treatment. *J. Geriatr. Cardiol.* 2015;12:66–75.
4. Oliveira MD, de Fazio FR, Mariani Junior J, et al. Superdominant right coronary artery with absence of left circumflex and anomalous origin of the left anterior descending coronary from the right sinus: an unheard coronary anomaly circulation. *Case Rep. Cardiol.* 2015;2015:721536.

Luca Fallavollita*

Unit of Cardiology, Italian National Institute of Research on Aging,
INRCA- 6 Canale street, Fermo, 63900, Italy

Geza Halasz
Maria Piseri
MESVA Department, University of L'Aquila, Italy

Vincenzo Biasini
Medical Sport Center - FMSI – Scoppito, L'Aquila, Fermo, Italy

* Corresponding author.
E-mail address: loufall79@katamail.com (L. Fallavollita).

Received 21 December 2016

Available online 11 January 2017