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Letter to the Editor

Coronary artery anomaly: what does not fit the patient or the interpretation?

Dear Editor,

Stajic et al[1] recently reported the case of a patient with exercise-induced angina in whom coronary angiography revealed an aberrant left coronary system. My interpretation regarding the definition of the coronary artery anomaly that is depicted in a right anterior oblique view is different from that of the authors; therefore, in an attempt to provide consistency in the literature and prevent confusion, I would like to comment on this case.

What defines the nature and name of a specific coronary artery is not the site of origin or proximal course but the dependent myocardial territory[2,3]. The left coronary system is best defined according to the left main coronary artery (LMCA) which is the only normally observed mixed trunk and its two primary subdivisions, the left anterior descending (LAD) and left circumflex (LCx) arteries[3,4]. It is essential for a vessel to course in the anterior interventricular sulcus (AIVS) supplying septal branches to the anterior interventricular septum to qualify for the LAD artery whereas the LCx artery is the vessel coursing in the left atrioventricular sulcus supplying at least one obtuse marginal branch (OMB)[2,3,5]. Accordingly the vessel recognized by the authors as the LCx artery is indeed the LMCA (Figure 1) that after arising from the right aortic sinus courses to left forming a cranial anterior loop indicating a prepulmonic trajectory that is anterior to the right ventricular infundibulum[6]. It reaches the mid AIVS at which point it supplies the LAD artery. The latter descends in the distal AIVS and ascends in the mid and proximal AIVS eventually forming a leftward and posterior loop to become the LCx artery that courses in the proximal left atrioventricular sulcus providing OMBs. The other vessel seen arising from the right aortic sinus is a second LCx artery that very likely follows a retroaortic course to reach the left atrioventricular sulcus eventually supplying OMBs.

In conclusion, the case in question comprises a right aortic sinus-connected prepulmonic LMCA supplying the LAD artery and two LCx arteries, one arising as the continuation of the proximal LAD artery and the other from the right aortic sinus. Though such an anomalous LMCA has previously

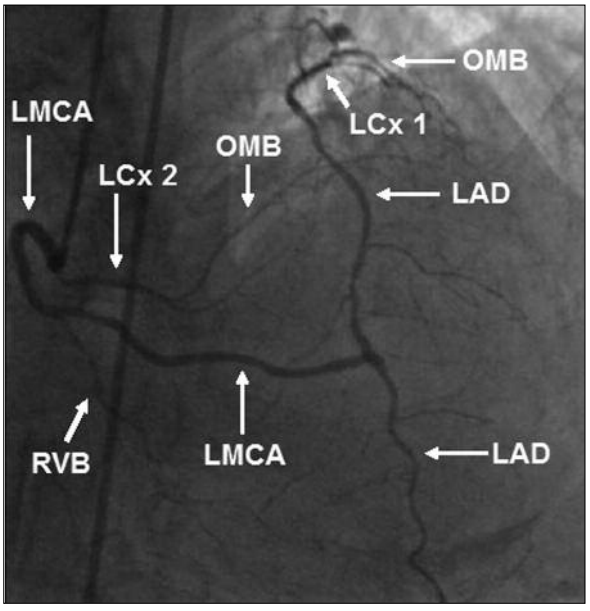

Figure 1. Coronary catheter angiographic image of the anomalous left coronary system. LMCA; left main coronary artery, LAD; left anterior descending artery, LCx 1; left circumflex artery arising as the continuation of the proximal LAD artery, LCx 2; left circumflex artery arising from the right aortic sinus, OMB; obtuse marginal branch, RVB; right ventricular branch arising from the LMCA

Corresponding Author: Andreas Y. Andreou, MD; e-mail: y.andreas@yahoo.com

been reported, to the best of my knowledge, its combination with two LCx arteries is novel[7]. Such an aberrant LMCA is considered benign; however, it may be vulnerable to spasm due to endothelial dysfunction attributed to a repetitive (phasic) mechanical stress exerted upon the artery by the right ventricular infundibulum[8].

Conflict of Interest

The Authors declare that they have no conflict of interests.

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A.Y. Andreou

Department of Cardiology, Limassol General Hospital, Limassol, Cyprus