An unusual coronary artery anomaly: type IV double left anterior descending coronary artery

A 64-year-old female was admitted with angina refractory to medical therapy. Hypertension, diabetes mellitus and dyslipidemia were present as risk factors for coronary atherosclerosis. Physical examination and laboratory evaluation revealed no significant pathology. Selective coronary angiography was performed. Initially, during the left system arteriography, a patent left anterior descending coronary artery (LAD) and an occluded left circumflex coronary artery were demonstrated. However, after performing the right coronary arteriography, the left system was reviewed again. A large diagonal branch had been considered as LAD. It was realized that LAD terminated prematurely in its course after giving rise to septal and diagonal branches, and the appearance of an avascular area in the distribution of the LAD and no collateral circulation were seen (Fig. 1). In addition, the right coronary arteriography revealed additional longer artery originating from the proximal portion of the right coronary artery. Its septal perforators and course helped us to accept the artery as LAD (Fig. 2). We realized that this coronary anomaly was a rare type IV double LAD coronary artery. During standard coronary angiography, this aberrant artery might be failed to visualize appropriately. Coronary angiography might also be misinterpreted showing a totally occluded LAD from its mid portion, and inaccurate therapeutic decisions might be made because of the presence of coronary anomalies as a possible and often neglected cause of chest pain. Therefore, double LAD might be considered when left coronary angiography reveals a prematurely terminated LAD in its course and a nonperfused distal area without collaterals.

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Single coronary artery in a patient with acute myocardial infarction: atypical connection of left main coronary artery with left coronary system

A 47-year-old man was admitted to the hospital with infero-postero-lateral acute myocardial infarction and immediately transferred to the catheterization laboratory. The left coronary system could not be visualized. Selective right coronary angiography showed a left coronary artery ostium originating from the right sinus of Valsalva. Proximally coursing bifurcation branch of left main coronary artery (LMCA) was occluded just after giving left anterior descending (LAD) branch (Fig. 1). Primary percutaneous coronary balloon angioplasty was performed and TIMI III flow was obtained (Fig. 2).

A 64- slice multidetector computed tomography (CT) was performed at the fifth day of admission. Multidetector CT revealed a single coronary system originating from the right coronary sinus, which was divided into right and left main coronary arteries. After a long course, LMCA was divided into two branches, distal and proximal LAD at the