

An Isolated Single L-I type Coronary Artery with Severe LAD Lesions Treated by Transradial PCI

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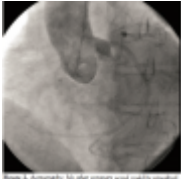
ABSTRACT: Cases of coronary arteries with anomalous aortic origin are rare. An isolated single coronary artery is a congenital anomaly occurring in approximately 0.024–0.066% of the population. Atherosclerosis of these arteries is not infrequent with potentially severe consequences, but interventional procedures are rarely performed. We report an acute coronary syndrome case due to a subtotal paraostial left anterior descending (LAD) occlusion of a single L-I type coronary artery. Another severe stenosis was also present at mid-LAD. The patient was successfully treated with transradial percutaneous coronary intervention (PCI). Our case shows that when the anatomy is suitable, complex PCI can be performed successfully in single coronary arteries.



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Key words: acute coronary syndrome, single coronary artery

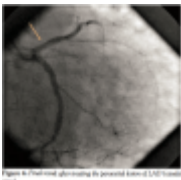
Case Report. A 68-year-old male patient was admitted with progressive effort dyspnea. He was dyslipidemic and hypertensive with a family history of coronary artery disease and otherwise unremarkable medical history. His ECG showed normal sinus rhythm with negative T waves on leads I, aVL, V4-V6. On echocardiography, the left ventricle had anteroseptal and apical hypokinesia, ejection fraction 35%, and pseudonormalized filling.



Coronary angiography performed via a right radial artery approach revealed a single coronary artery (SCA) originating from the left sinus of Valsalva (L-I type) (Figure 1). No other coronary artery was noted on aortography (Figure 2). The left main was very short; the LAD and circumflex had separate ostia. The LAD had a paraostial subtotal occlusion and another focal 80% stenosis at its mid segment (Figures 3 and 4). A superdominant circumflex artery, after supplying the posterior descending branch, continued its course along the right posterior atrioventricular groove providing branches for the right ventricle and right atrium.



Ad hoc percutaneous coronary intervention (PCI) was performed maintaining the right radial approach. A 6 French (Fr) JL 3.5 guiding catheter (Cordis Europa NV) was chosen. The LAD lesions were crossed with a Pilot 50 guidewire (Abbott Vascular). The LAD paraostial lesion was predilated with a Sprinter 2 x 10 mm balloon (Medtronic) and an Endeavor Resolute 4 x 18 mm stent (Medtronic) was successfully implanted at 16 atm (Figure 4). Better visualization of the mid-LAD lesion was achieved and permitted direct implantation of a Nobori 3 x 14 mm stent (Terumo) at 16 atm to achieve an excellent angiographic result (Figure 5). The patient had no troponin elevation post-procedure and was discharged uneventfully after 2 days.



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circumflex artery in a patient with an unusual type of isolated single coronary artery. Jpn Heart J 2004;45(2):337-342.

8. Valencia J, Ruiz-Nodar JM, Bordes P, Pineda J. Isolated single left coronary artery. Int J Cardiol 2007;122(1):66-67.

9. Furbatto F, Esposito G, Piccolo R, et al. Coronary angioplasty with stenting for acute coronary syndrome in patients with isolated single coronary artery: A report of two cases. J Cardiovasc Med (Hagerstown) 2009;10(7):550-553.

10. Takano M, Seimiya K, Yokoyama S, et al. Unique single coronary artery with acute myocardial infarction: Observation of the culprit lesion by intravascular ultrasound and coronary angioscopy. Jpn Heart J 2003;44(2):271-276.

11. Yoshitani H, Akasaka T, Kaji S, et al. Effects of intra-aorta balloon counterpulsation on coronary pressure in patients with stenotic coronary arteries. Am Heart J. 2007;154:725-731.

12. Briguori C, Airolidi F, Chieffo A, et al. Elective versus provisional intraaortic balloon pumping in unprotected left main stenting. Am Heart J 2006;152(3):565-572.

13. Vijayalakshmi K, Kunadian B, Whittaker VJ, et al. Intra-aortic counterpulsation does not improve coronary flow early after PCI in a high-risk group of patients: Observations from a randomized trial to explore its mode of action. J Invasive Cardiol 2007;19:339-346.

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