Rapid progression of left main disease in a patient with anterior ST-segment elevation myocardial infarction

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Case report: 43-year old male patient, with a positive family history for coronary artery disease, was admitted to hospital in Jul 2017 with acute ST-segment elevation myocardial infarction presenting with rhythmic instability (VT/VF) and cardiogenic shock. Angiography revealed occlusion of the proximal left anterior descending artery as the culprit lesion and intermediate stenoses of the distal segment of the right coronary artery (RCA) and OM branch of the circumflex artery. Percutaneous coronary intervention (PCI) of the culprit lesion was performed with an optimal angiographic result. Echocardiography showed dilation of the left ventricle with significant reduction of ejection fraction (EFLV 35%) and mild mitral regurgitation. He was discharged with optimal medical therapy. In Oct 2017 repeat angiography was performed to evaluate the aforementioned residual coronary lesions. Intravascular ultrasonography showed nonsignificant lumen stenosis of the left main artery (MLA 8 cm²), RCA and OM branch. Medical therapy was modified with introduction of sacubitril/valsartan. In Dec 2017 the patient was admitted to hospital with rhythmic instability (VT/VF) and elevated cardiac biomarkers. Angiography revealed significant ostial stenosis of left main artery with ventriculization of blood pressure curves and fall in BP during catheterization. After stabilization, an implantable cardioverter defibrillator was implanted for secondary prevention followed by PCI of the left main with implantation of one everolimus-eluting stent. On follow up visits the patient remains symptom-free, without clinical signs of heart failure or evidence of malignant ventricular arrhythmias.

Conclusion: This was a case of rapid coronary artery disease progression involving the left main coronary artery in a patient with ischemic cardiomyopathy with low ejection fraction in spite of optimal medical therapy and repeat angiographic studies using advanced intravascular imaging.^{1,2} It also remains uncertain when is the optimal timing of ICD implantation in patients with malignant arrhythmias in the early acute phase of myocardial infarction.

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LITERATURE

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