


Electrical storm in acute stent thrombosis: a case report

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Introduction: Acute myocardial ischemia is a well-known cause of ventricular arrhythmias, often fatal. Polymorphic ventricular tachycardia (PVT) and ventricular fibrillation (VF) are mostly seen during ongoing myocardial ischemia and within first 72 hours of a myocardial infarction which often results in hemodynamic instability with significant risk of mortality^{1,2}. This is a case report of a 42-year-old male presenting with a hemodynamically unstable electrical storm following an acute in-stent thrombosis.

Case report: 43-year-old man presented to the Emergency Department (ED) with retrosternal chest pain. His initial electrocardiogram (ECG) showed an ST elevation in anteroseptolateral leads. In the ED he suffered a cardiac arrest due to VF. On successful cardiopulmonary resuscitation with defibrillation, urgent coronarography was performed with the placement of one drug-eluting (DE) stent in the proximal left anterior descending artery. Postprocedural, in the Coronary Care Unit an electrical storm with incessant and recurring PVT and VF refractory to medical treatment and requiring multiple direct-current shocks (in total over 60 times). An indication was made for re-evaluation by coronary angiography. Prior to the procedure in the Catheterization Laboratory a peripheral veno-arterial (VA) femoro-femoral extracorporeal membrane oxygenation (ECMO) was placed. Repeated angiography showed an acute in-stent thrombosis and reperfusion was successfully performed with placement of a second DE stent. After the intervention the patient was rhythmically stable with no recurrence of ventricular arrhythmias. He was successfully weaned off VA-ECMO 8 days later and discharged 55 days later with optimized medical therapy, no clinical signs of heart failure and with no neurological deficits. On follow-up, echocardiography showed hypokinesia of anterolateral wall with left ventricular ejection function 45 % and he had no signs of heart failure and no anginal symptoms.

Conclusion: In the setting of an acute myocardial infarction, an electrical storm following a percutaneous revascularization, especially one refractory to medication and with no evident metabolic cause, should raise suspicion of acute in-stent thrombosis. A low threshold for reintervention should be set in such situations. Temporary mechanical circulatory support, if available, provides a good hemodynamic stabilization for the procedure and for later rhythm and circulatory management.

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LITERATURE

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