Intracoronary Thrombus with Normal Coronary Flow during Acute Anterior Myocardial Infarction: a case report

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Acute myocardial infarction (MI) is a clinical syndrome characterized by acute occlusion of a coronary artery caused mainly by the development of a thrombus on the substrate of various types of atherosclerotic (1). We present a case of female patient with evolving anterior acute MI referred for primary percutan transluminal coronary angioplasty (PTCA) who were successfully managed tirofiban infusion therapy after angiographic documentation of an infarct related artery with a large thrombus, normal coronary flow and absence of detectable atherosclerosis in the rest of the coronary tree.

52 years-old women patients presented with newly onset of typical complaint of chest pain and exertional dyspnea to the emergency department. The patient had electrocardiographic evidence of AMI (Figure 1).

Due to the rejected stenting, percutaneous coronary intervention was not performed and aggressive antiplatelet/anticoagulant treatment was administered (acetylsalicylic acid, clopidogrel, tirofiban and heparin). GlycoproteinIIb/IIIa inhibitör tirofiban as intravenous infusion bolus (10µg/kg/min) was administered and followed by a continuous infusion (0.15/kg/min) administered for 48 hours. In a...
case early angiographic control (3 days after MI) showed disappearance of thrombus, no significant residual stenosis and normal flow (Figure 3).

Her coagulation factor levels were normal. After seven days and she was followed-up at the outpatient clinic uneventfully. Intracoronary thrombus is accepted as a difficult and mostly encountered problem in acute coronary syndromes. Treatment of intracoronary thrombus by PTCA is associated with complications. The most complications during PTCA are abrupt coronary vessel closure, distal embolization and no-reflow phenomenon (2). The prognosis of patients with MI developing due to intracoronary thrombus has usually adverse outcomes. Even though several anti-platelet drugs, such as thienopyridine and glycoprotein IIb/IIIa inhibitors, have been providing a better outcomes of this lesion (3).

In the present report we describe a relatively rare finding in the setting of urgent coronary angiography for evolving MI: the presence of an angiographic pattern indicative of large intraluminal thrombus (thrombus score 2 or 3) without critical impairment of the anterograde flow (TIMI 2 or 3) in a coronary tree free of detectable atherosclerosis. In this setting the optimal medical or interventional strategy is unknown. Indeed, because of the characteristics of thrombus rich target lesions (4), the use of angioplasty could have led to flow deterioration and impairment of adjacent side branches, as well as to an appreciable restenosis rate. Moreover, when urgent angiography shows good flow in the infarct related artery, a watchful conservative treatment can be adopted (5).

On the other hand, because of the dynamic process of thrombus formation and dissolution during acute coronary syndromes (6), the choice of a conservative strategy can increase the risk of deterioration of coronary flow through the lesion in the following hours to days. This may occur especially in patients with a high degree of coronary stenosis even in the presence of TIMI 3 flow (7).

It is reasonable to speculate that the combination of drugs we used facilitated the disappearance of thrombus. In particular the use of glycoprotein IIb/IIIa inhibitors could have exerted a beneficial effect, in agreement with recent data showing that the administration of abciximab reduces the rate of angiographically detectable thrombus in acute MI (8).

Hereby, there is no certain algorithm available for the treatment of coronary artery trombosis. In such situations, as alternative therapy versus percutan coronary intervention, glycoprotein IIb/IIIa receptor antagonist may be an effective agents for trombus resolution.

References


