

Resolution of Intracoronary Thrombus with Tirofiban Infusion: A Case Report

Tirofiban İnfüzyonu ile İntrakoroner Trombüsün Çözülmesi: Olgu Sunumu

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Abstract

A 27 year-old man presented with chest pain lasting for fourteen-hour duration. The patient had electrocardiographic evidence of subacute anterior wall myocardial infarction. Coronary angiography revealed total occlusion of the left anterior descending coronary artery. Tirofiban infusion was administered for 48 hours. Then, coronary angiography showed intraluminal filling defects due to a massive thrombus in the proximal segment of the left anterior descending coronary artery. We present a case of effective thrombolysis with tirofiban in young myocardial infarction case.

Key words: Myocardial infarction, Tirofiban infusion

Özet

Yirmiyedi yaşında erkek hasta on dört saat süren göğüs ağrısı ile başvurdu. Hastanın elektrokardiyografisinde subakut anterior miyokard infarktüsü ile uyumlu bulgular vardı. Koroner anjiyografide sol ön inen koroner arter tam tıkalı saptandı. Tirofiban infüzyon 48 saat süreyle verildi. Daha sonra, koroner anjiyografide sol ön inen koroner arter proksimal segmentinde büyük bir trombus nedeniyle intraluminal dolma defekti, görüldü. Miyokard infarktüsü genç bir hastada Tirofiban ile etkin bir tromboliz olgusunu sunmayı amaçladık.

Anahtar kelimeler: Miyokard infarktüsü, Tirofiban infüzyonu

Case Report

A 27 year-old man presented with chest pain radiating to his left arm and neck, and his pain was associated with shortness of breath and diaphoresis lasting for fourteen hour. He was admitted to department of cardiology with a diagnosis of acute coronary syndrome. On admission, his blood pressure was 130/85 mmHg, and heart rate was 82 beat/min. There was no abnormal physical sign on systemic examination. His medical history was unremarkable. The patient had electrocardiographic evidence of subacute anterior wall myocardial infarction. Electrocardiography showed 2 mm ST-segment elevation and biphasic T waves in V1–V6 leads. A diagnosis of subacute anterior myocardial infarction was made and he was referred to the cardiac catheterization laboratory for primary coronary angioplasty. Medical treatment was started with 300 mg aspirin, 600 mg clopidogrel, intravenous nitrate infusion and bolus injection of 5.000 units unfractionated heparin. Coronary angiography revealed resulting in total vessel occlusion in the proximal segment of the left anterior descending (LAD) coronary artery (Fig. 1). The right coronary system was normal and LAD was filled retrogradely from the right system. Because of the rejected stenting or any advance procedure, percutaneous coronary intervention was not performed. However, glycoprotein IIb/IIIa inhibitor tirofiban as intravenous infusion bolus (10 µg/kg/min) was administered and followed by a continuous infusion (0.15 µg/kg/min) administered for 48 hours (1). This patient was transferred to the intensive care unit for further observation after the procedure.

Coronary angiography performed at 72 hours, showed resolution of the total occlusion and restoration of TIMI 3 flow intraluminal filling defects due to a massive thrombus in the proximal segment of the left anterior descending coronary artery (Fig. 2). His colour Doppler echocardiography after 48 hours showed deteriorating ventricular function (35% LVEF), mild mitral regurgitation. His coagulation factor levels (Factor V Leiden mutation, protein C, protein S) were normal.

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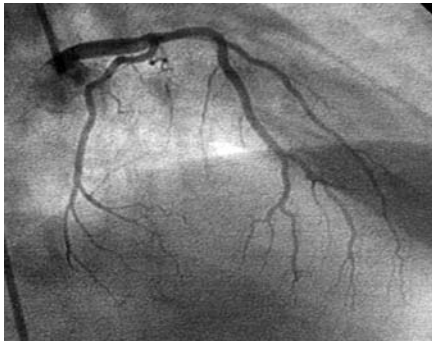


Figure 1. Right anterior oblique projection of selective left coronary angiogram shows the culprit lesion with 100% stenotic lesion at the proximal part of left anterior descending artery.



Figure 2. Intraluminal filling defects due to a massive thrombus in the proximal segment of the LAD.



Figure 3. Intraluminal filling defects due to a massive thrombus in the proximal segment of the LAD. Distal flow was restored after intravascular tirofiban administration.

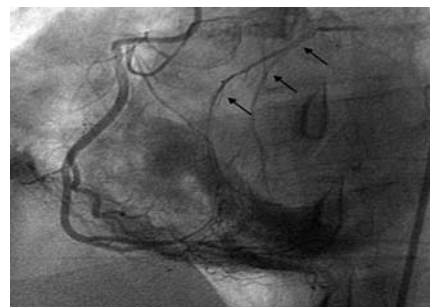


Figure 4. Selective right coronary angiography shows that LAD is filling retrogradely from the right coronary system.

This patient was discharged without any complication and taking coumadin was recommended. After six days and he was followed-up at the outpatient clinic uneventfully. We present a case which had effective thrombolysis with tirofiban in young myocardial infarction result from total inclusion caused by massive thrombus.

Discussion

The use of GP IIb/IIIa antagonists in the setting of coronary interventions and acute coronary syndromes is increasing due to demonstrated efficacy in several clinical trials. Glycoprotein IIb/IIIa receptor antagonists are potent antiplatelet agents by inhibiting the final common pathway of platelet aggregation. Tirofiban has demonstrated efficacy when used in the context of percutaneous coronary interventions (PCI) and acute coronary syndromes (2, 3). The efficacy of tirofiban in the context of planned intervention was tested in the Restore trial, where in the composite endpoint of MI, death, and any revascularization was statistically significant at 2 and 7 days, but was not significant at 30 days (1). Therapeutic approaches are direct balloon angioplasty, stent deployment, bypass surgery, intra-coronary thrombolytic treatment or medical treatment for the treatment of coronary artery thrombosis (4). However, there is no certain algorithm available for the treatment of coronary artery thrombosis.

Herein, we firstly report a case which had effective thrombolysis with tirofiban in young myocardial infarction result from total inclusion caused by massive thrombus. Because of he rejected stenting or any advance procedure, coronary angioplasty and/or stent procedures were not performed. In such situations, as alternative therapy versus PCI, glycoprotein IIb/IIIa receptor antagonists may be an effective agent for thrombus resolution.

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