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A case of atypical acute myocardial infarction with difficulty in diagnosis and treatment

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A 38-year-old man with hypertension and dyslipidemia was transferred to our hospital because of persistent chest pain. 12-leads electrocardiogram showed ST elevation in II, III, aVF leads and troponin-T was positive. Ultrasound echocardiogram showed severe wall motion abnormality at the inferoposterior region. Contrary to expectation, emergent coronary angiography showed total occlusion in the distal site of long left anterior descending artery (LAD) and we subsequently performed percutaneous coronary intervention (PCI) after dual antiplatelet therapy. After passing guidewire easily, intravascular ultrasound (IVUS) showed thrombotic lesion in distal LAD. Although we performed catheter thrombus aspiration, plain old balloon angioplasty (POBA), and a nitroprusside infusion, TIMI 2 flow was barely obtained. Then, we added POBA with smaller balloon for more distal LAD site (mechanical clot disruption). After that, it was impossible to use guiding catheter, and massive thrombus was collected from that guiding catheter. Considering an insufficiency of anticoagulation, we administered a sufficient amount of unfractionated heparin. Moreover, we performed urokinase thrombolysis in distal LAD using pulse infusion thrombolysis catheter. Finally, we gained TIMI 3 flow in LAD. IVUS and optical coherence tomography (OCT) to inquire a cause of this acute myocardial infarction (AMI) showed that thrombus was not apparent in culprit site, while thrombotic lesion was observed in ostial left main trunk. To prevent thrombus formation, he keeps receiving optimal anticoagulation therapy with warfarin in addition to low dose aspirin. IVUS and OCT imaging modalities were effective to diagnose this atypical AMI.