



# ST Segment Elevation Myocardial Infarction and Subacute Stent Thrombosis in a Young Marijuana User

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## Clinical Image

A 24-year-old-male presented to our emergency room with sub sternal crushing chest pain radiating to neck and left shoulder. He has no risk factors for coronary artery disease apart from heavy smoking. He denies use of any recreational drug and supplements. He had a blood pressure of 110/55 mmHg, a pulse rate of 101 bpm, a temperature of 37.2°C and a respiratory rate of 17 per min. Initial electrocardiography (ECG) showed ST segment elevation throughout V1 to V5. Acetylsalicylic acid 300 mg sublingual, clopidogrel 600 mg per oral and heparin 80 U/kg subcutaneous were administered. Coronary angiography (CAG) showed plaque rupture and thrombus formation causing subtotal occlusion of proximal left anterior descending (LAD) artery with normal circumflex artery (Video 1) and right coronary artery (Figure 1a and 1b) 3.0 mm × 23 mm drug eluting stent was implanted ( Xience-V, Abbot Vascular, California) after adequate pre-dilatation of the lesion (Figure 1c and Video 2). Four days later the patient complained from the same chest pain of presentation while being observed at ward. The ECG showed elevation of the same leads lower than presentation. CAG showed stent thrombosis and multiple post-dilatations with non compliant balloon (3.0 mm × 15 mm, Nc Quantum Apex, Boston Scientific, USA) was performed (Figure 2a and Video 3). Adequate blood flow was restored (Figure 2b and Video 4). A blood screen for pro thrombin gene mutation, plasminogen activator inhibitor-1 activity, factor V Leiden mutation, protein C activity, MTHFR gene mutation, protein S activity, homocysteine levels, and anti-cardiolipin antibodies was performed and showed no secondary etiology for thrombosis. Urine drug test revealed cannabinoid use and family members and friends were asked about possible off label drug use. The patient had admitted use of marijuana before the first and

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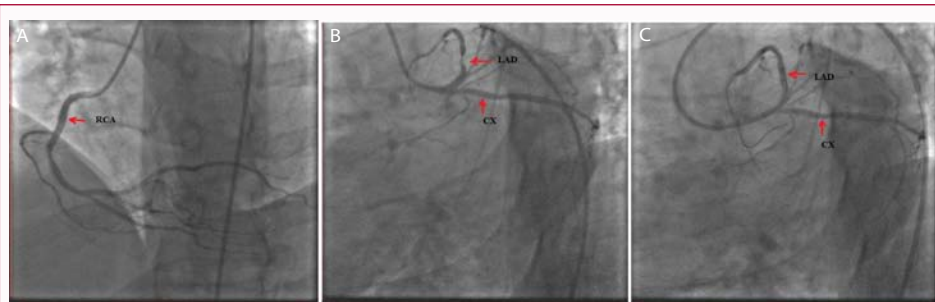
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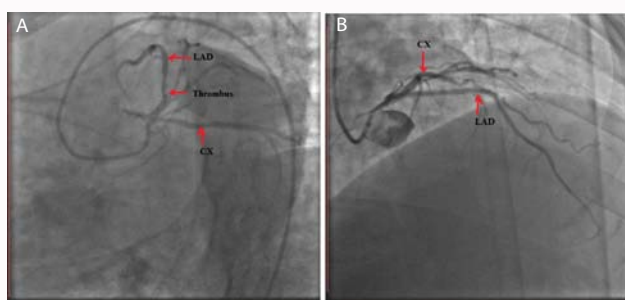
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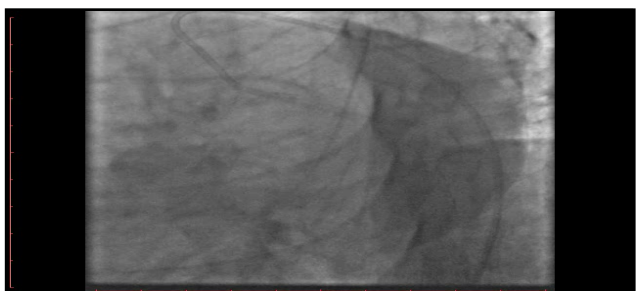


**Figure 1a:** CAG is showing normal right coronary artery. **b:** CAG is showing plaque rupture and thrombus formation causing subtotal occlusion of proximal LAD artery with normal CX artery. **c:** CAG is showing successful revascularization of proximal LAD artery with stent implantation.

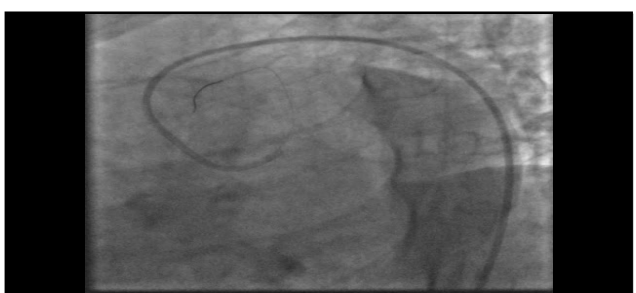


**Figure 2a:** CAG is showing fresh thrombus in stent in proximal LAD artery. **b:** CAG is showing dissolution of thrombus after balloon angioplasty.

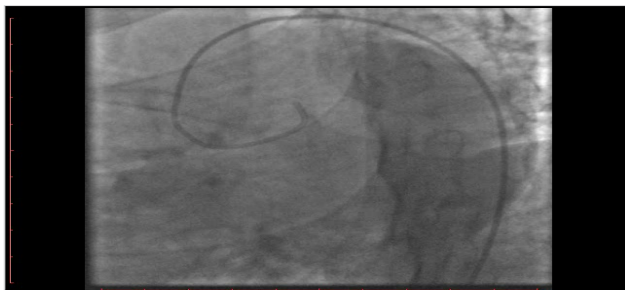
second chest pain after being told about urine drug test results. He discharged with acetylsalicylic acid 300 mg, clopidogrel 150 mg daily and strict recommendation for cessation smoking and marijuana. He is in good health conditions since he has quitted smoking marijuana.



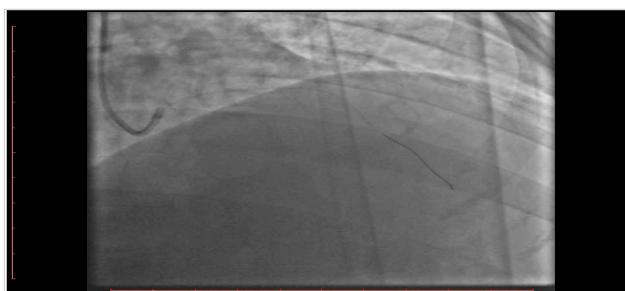
**Video 1:** CAG is showing subtotal occlusion of LAD artery.



**Video 2:** CAG is showing reperfusion of LAD artery with stent implantation.



**Video 3:** CAG is showing stent thrombosis of LAD artery.



**Video 4:** CAG is showing successful reperfusion of LAD artery after stent thrombosis.