Clinical vignette

Intracoronary thrombus in a 26-year-old man

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A 26-year-old smoker with no other cardiovascular risk factor presented with acute anterior ST-segment elevation myocardial infarction. He had smoked cannabis one day prior to admission. Coronary angiogram showed no evidence of coronary atherosclerosis but a large coronary thrombus in the proximal and mid portion of left anterior descending coronary artery (LAD), partially obstructing flow (Panel A). Multiple attempts of thrombus aspiration using an aspiration catheter (Export, Medtronic, Minneapolis, MN, USA) were unsuccessful. Despite intracoronary administration of 20 mg of r-tPA over 15 min, standard dose of intravenous unfractionated heparin and abciximab, as well as 300 mg clopidogrel loading dose on top of aspirin, angiography performed 12 h later confirmed persistent LAD filling defect (Panel B). Thrombus removal with an aspiration catheter was again ineffective. Direct thrombus extraction was performed by introducing a filter protection device (SpiderRX 4 mm, ev3, Plymouth, MN, USA) into the mid-LAD beyond the thrombus (Panel C). The open device was then gently pulled back so that the thrombus could be entirely trapped within the filter and then removed using a retrieval sheath. Final angiogram showed complete thrombus removal and no evidence of distal embolization (Panel D). The filter contained a large thrombus (Panels E and F). Toxicological screening for amphetamines and cocaine as well as thrombophilia work-up were negative.