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A Case of Angina Pectoris in which culprit lesion could not be detected by FFR measurement

A 49-year-old man was admitted to our hospital because of chest pain on effort. ECG showed no ST-T abnormalities and UCG showed no left ventricular asynergy. Tc-tetrofosmin myocardial SPECT revealed apico-anteroseptal hypoperfusion in the adenosine stress image and the fill-in in the rest image. So that CAG was perfomed on April 2013. CAG revealed intermediate stenotic lesion in the proximal portion and diffuse but mild stenotic lesion with severe tortuosity in the mid portion of the LAD. To assess the functional severity of the LAD, FFR measurement was done. Obtained FFR value of the LAD far distal was 0.65. However, pull-back curve showed delta FFR was larger in the mid LAD than in the proximal LAD. As deciding which region was the culprit lesion, might not be clear by FFR measurement, IVUS assessment was done. IVUS image revealed small atherosclerotic plaque and multiple accordion phenomenon in the mid LAD, and calcified plaque formation in the proximal LAD, that measured MLA was 3.9mm². So we decided to treat the proximal LAD, A 3.5x18mm NOBORI stent was then deployed, followed by IVUS assessment. Post FFR value was 0.75 and final angiography revealed an acceptable result. After PCI, the patient's chest symptom disappeared and stress SPECT imaging showed no evidence of ischemia.