

Force focused angioplasty with confirmation of the calcium fracture by IVUS: Simple and effective method to overcome heavily calcified lesion

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Objective: Heavily calcified coronary artery lesion is associated with reduced primary success rates and leading to stent underexpansion. Rotational atherectomy is accepted as a default therapy. But it has disadvantages in view of procedural complexity and life-threatening complications. As an alternative, force focused angioplasty is already known. we evaluate the safety and effectiveness of it. **Method:** From January 2009 to August 2015, we performed PCI using wire cutting technique with IVUS confirmation of the calcium fracture in 30 patients with chronic stable angina who had a heavily calcified culprit lesion on coronary angiography. The method we performed is described as follows: First, the lesion was passed with main wire and second buddy wire was introduced in parallel. Next, non-compliant balloon with 70% size of reference diameter was dilated over one wire. And then we assess the lesion with IVUS. If calcium fracture were not seen, we have not implanted stent and repeatedly dilated balloon. And after the calcium fractures were eventually seen, we deployed the stent at the lesion. **Result:** Mean age was 68.7 ± 5.6 years, 73.5% patients were male. All patients received drug eluting stents. The overall angiographies success rate was 97%. Median follow up time was 1.8 years and no major adverse cardiac event occurred during follow up period. **Conclusion:** A wire-cutting technique in conjunction with the confirmation of plaque modification by IVUS is simple and very effective method to overcome heavily calcified lesion.