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INTRAVASCULAR ULTRASOUND-GUIDED ROTATIONAL ATHERECTOMY OF FIBRO-CALCIFIC PLAQUE PRIOR TO INTRACORONARY DEPLOYMENT OF PALMAZ-SCHATZ STENTS

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Publication Date

1994

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**Intravascular Ultrasound Guided Rotational
Atherectomy of Fibro-Calcific Plaque Prior to
Intracoronary Deployment of Palmaz-Schatz Stents*****Steven L. Goldberg, Patrick Hall, Yaron Almagor, Luigi Maiello,
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Columbus, Milan, Italy and *UC Irvine, Orange, California**

Fibro-calcific plaque (FCP) can limit optimal stent expansion. Rotational atherectomy (RTB) can be used to modify the fibro-calcific region and potentially improve stent expansion. Intravascular ultrasound (IVUS) was used prior to Intracoronary implantation of Palmaz-Schatz stents in 43 pts without calcification on angiography to identify fibrocalcific plaque. FCP of more than 90° was identified in 20 pts who had subsequent rotational ablation. Successful stent implantation was achieved in 42 of the 43 pts (97.7%). The pt with an unsuccessful procedure required urgent CABG. There were no other complications. After stent deployment, all pts had round, symmetric, well-expanded stents on IVUS. The angiographic reference vessel diameters were 3.1 mm with baseline percent stenosis of 67% for each group (MLD 0.9 ± 0.5 mm in RTB group vs 1.0 ± 0.4 mm, $p = ns$). The mean pre-stent lumen cross-sectional area by IVUS was 2.9 ± 1.1 mm² for the pts receiving RTB vs 3.8 ± 1.8 mm² in the non RTB group ($p = 0.05$). Mean burr size was 1.75 ± 0.23 mm. The mean angiographic final percent stenosis was $-5 \pm 15\%$ in the RTB treated pts and $-10 \pm 14\%$ in the non-RTB pts ($p = ns$), reflecting acceptable stent expansion. The IVUS lumen cross-sectional area remained significantly lower, however, for the pts receiving RTB, 7.53 ± 1.8 vs 9.01 ± 2.0 mm² ($p < 0.05$). This difference likely represents the effect of FCP on stent expansion, despite attempts at plaque modification with RTB. Conclusion: IVUS identifies a subgroup of patients with FCP which are not detected by angiography. Lesions with FCP are associated with lesser degrees of stent expansion, probably due to FCP compression of the stent. IVUS followed by RTB when fibro-calcific plaque is seen is feasible and associated with effective stent deployment.

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