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Peer reviewed

Clinical Cardiology: **Coronary Ultrasound and Recanalization**

Thursday Morning

Intracoronary Ultrasound Imaging After Balloon Angioplasty

2684

Jonathan M. Tobis, Donald Mahon, Kenneth Lehmann, Masahito Moriuchi, Junko Honye, Walter L. Henry, University of California, Irvine, Irvine, CA

Cross-sectional ultrasound images were obtained in 20 patients following coronary balloon angioplasty with a 20MHz transducer imaging catheter. Morphologic observations demonstrated the presence of tears in the atheroma and dissection between the media and the plaque in 16 (80%) cases. The intravascular images were more sensitive to the presence of calcification at the base of the atheroma than angiography. The mean cross-sectional lumen area post balloon angioplasty was $3.7 \pm 1.2 \text{mm}^2$ by ultrasound and $4.8 \pm 2.1 \text{mm}^2$ by angiography. Although the mean values were similar, the individual correlation between angiography and ultrasound was poor ($r=0.2$). The mean residual atheroma area at the level of the prior dilatation was $10.2 \pm 3.8 \text{mm}^2$ which corresponded to 73% of the available arterial cross-sectional area. Intravascular ultrasound is more sensitive than angiography for demonstrating the extent of atherosclerosis and calcification. In addition, intracoronary imaging demonstrates a large residual atheroma following balloon angioplasty which may explain the high incidence of restenosis after PTCA.