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## The Differential Predictive Value of Various Intravascular Ultrasound Criteria for Subacute Stent Thrombosis

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Several empirical intravascular ultrasound (IVUS) criteria have been proposed to ensure objective optimal stent deployment. The aim of this study was to determine which of the commonly used criteria predicts subacute stent thrombosis (SST). We retrospectively studied 682 consecutive pts with 921 lesions who underwent successful high pressure stent implantation ( $16 \pm 3$  ATM) with IVUS guidance. Vessels treated were: LAD 50%, LCX 17%, RCA 29%, SVG 3% and LM 1%. Stenting was elective in 62% of cases. Palmaz-Schatz stents were implanted in 65% of lesions. Reference diameter was  $3.19 \pm 0.55$  mm and lesion length  $10.43 \pm 7.11$  mm. Five IVUS criteria were examined: final stent minimum lumen cross section area (MLCSA)  $\geq 9$  mm<sup>2</sup>; MLCSA  $\geq 90\%$  of average reference lumen CSA (AvgCSA); MLCSA  $\geq 80\%$  of AvgCSA; MLCSA  $\geq 70\%$  of final balloon CSA (BCSA) and MLCSA  $\geq 90\%$  of distal reference lumen CSA (DCSA). Results are shown in the table below. Conclusions: The achievement of predetermined IVUS criteria is associated with a lower SST after stenting. This complication was absent for very large MLCSA ( $\geq 9$  mm<sup>2</sup>) and minimal when strict criteria of stent expansion were used (MLCSA  $\geq 90\%$  Avg. lumen CSA). However, other commonly applied criteria did not have a significant impact on the incidence of SST.

Incidence of SST by criteria

	Criteria met	Met	Not met	P
MLCSA $\geq 9$ mm <sup>2</sup>	23%	0 (0%)	12 (1.8%)	0.04
MLCSA $\geq 90\%$ AvgCSA	60%	2 (0.5%)	6 (2.2%)	0.05
MLCSA $\geq 80\%$ AvgCSA	79%	6 (1.1%)	2 (1.4%)	0.50
MLCSA $\geq 70\%$ BCSA	63%	5 (0.9%)	7 (2.2%)	0.12
MLCSA $\geq 90\%$ DCSA	79%	10 (1.6%)	1 (0.6%)	0.29