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Intravascular Ultrasound Guidance of Multiple Interventions does not Reduce Restenosis

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A randomized, prospective study was performed to determine if intravascular ultrasound (IVUS) guidance of balloon dilatation, rotational or directed atherectomy, in any combination, could diminish restenosis by improving the lumen cross sectional area (CSA) to >50% of the arterial CSA (measured at media circumference). 162 lesions were randomized and 154 were assigned per protocol to final groups based on IVUS results.

Assigned group	Restenosis rate	
Usual treatment group	55%	
IVUS Optimized group	77%	p = ns
Stented if lumen <50%	20%	

Conclusions: Contrary to the initial hypothesis, this study suggests that aggressive, multiple interventions, even when directed by IVUS imaging, does not decrease the restenosis rate, and may traumatize the vessel and increase restenosis. This tendancy is reversed by placement of coronary stents. IVUS may help identify those lesions that would benefit from a stent.