Days to Event	TLR PTCA		TLR-CABG		Q-MI		Non-Q MI		Death	
	n	%	n	%	n	%	n	%	n	%
0-30 (n = 255)	8	3.1	1	0.4	3	1.2	11	4.3	4	1.6
31-180 (n = 127)	22	17.3	6	4.7	1	0.8	1	0.8	2	1.6

TLR = Target lesion revascularization

Conclusions: Despite complex, long, and tortuous lesions, elective stenting of small vessels resulted in high success, excellent early outcome, and a 6-month symptom-driven TLR rate superior to the historic rate with angioplasty alone.

1112-86 Balloons PTCA Is Equivalent to Stents in Patients With Small Coronaries: A Comparative Retrospective Matching Study

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PTCA in small coronary vessels (< 2.75 mm) is associated with frequent restenosis. Although stents reduce restenosis in vessels < 3.0 mm, the superiority of stents versus balloons in reducing restenosis in smaller vessels is unknown.

Methods: We compared retrospectively 148 patients who underwent balloon PTCA alone to 284 patients who underwent stent treatment in small vessels (2.25–2.75 mm). Patients had similar clinical characteristics and lesions were matched for morphologic by quantitative and qualitative coronary angiography. Reference lumen diameter in balloon PTCA was 2.57 ± 0.36 mm and in stents was 2.56 ± 0.44 mm.

Results: Procedural success were similar: 95% in balloons and 92% in stents. There was no difference in procedural, in-hospital cardiac events and target lesion revascularization (TLR). Long term follow-up at one year is shown.

Follow-up One Year	Balloon 130	Stent 275
Any Event	35/113 (31.0%)	78/227 (34.4%)
Death	4/124 (3.2%)	3/233 (1.3%)
PTCA	18/146 (12.3%)	52/292 (17.8%)
CABG	10/126 (7.9%)	28/275 (10.2%)
Any TLR	27/126 (21.4%)	75/275 (27.3%)

Conclusions: Stent therapy in small vessels is safe, but there are no relative advantages over balloon PTCA, including procedural success, TLR and other cardiac events at late follow-up. The true clinical value of stents in small coronaries will require randomized trials.

1112-87 The Late Benefit of Coronary Stenting in Small Vessels Is Reduced in Diabetic Patients

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Percutaneous therapy of obstructive coronary artery disease in diabetic (DM) pts has been limited by an increased frequency of procedural complications and late restenosis, particularly in small vessels where the reference diameter (RD) is less than 3 mm. We retrospectively examined acute and long term outcomes after coronary stenting in DM and nonDM pts enrolled in the STRESS III trial, in vessels with RD < 3.0 mm and with RD ≥ 3.0 mm. Pts underwent single vessel intervention of new lesions with Palmaz-Shatz stents and high pressure postdilation. Aspirin and ticlopidine were used as the antiplatelet regimen. Follow-up angiography was performed at 6 months. Data are presented as mean ± S.D.

	RD < 3.0 mm		RD ≥ 3.0 mm	
	DM (n = 10)	no DM (n = 88)	DM (n = 20)	no DM (n = 122)
RD (mm)	3.22 ± 1.5	3.28 ± 0.27	2.51 ± 0.23	2.55 ± 0.28
MLD pre (mm)	0.75 ± 0.41	0.82 ± 0.40	0.63 ± 0.32	0.65 ± 0.32
MLD post (mm)	2.59 ± 0.50	2.60 ± 0.42	2.57 ± 0.43	2.59 ± 0.40
MLD late (mm)	1.93 ± 0.94	1.98 ± 0.66	1.24 ± 0.65*	1.55 ± 0.57
net gain (mm)	1.16	1.15	0.57*	0.92
loss index	0.40 ± 0.53	0.44 ± 0.32	0.68 ± 0.4*	0.52 ± 0.3
restenosis (%)	22	25	50	34

* = p < 0.05

At 6 months a significantly smaller MLD and thus less net gain and a larger loss index is observed after stenting in small vessels in diabetic pts. Thus the initial benefits of high pressure stent implantation in small vessels in this small cohort of diabetic pts do not translate into favorable long term results compared with a nondiabetic population. These data suggest the need for adjunctive therapy with stent implantation to achieve a sustained long term benefit in this population.

1112-88 PTCA, Directional and Rotational Coronary Atherectomy in the Management of Palmaz-Schatz Instent Restenosis

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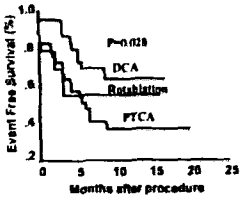
The optimal transcathter method for the treatment of stent restenosis is not known. The goal of this study was to compare immediate and long-term outcomes of 3 different modalities, balloon PTCA (n = 33), Directional atherectomy (DCA, n = 40) and rotational atherectomy (Rota, n = 23) in 96 patients with instent restenosis treated between Jan. 1995 and Jan. 1997.

Results: There were no significant differences in baseline clinical characteristics among the 3 groups. Specifically, there was no difference in mean age, multivessel disease, and mean LVEF. Reference diameter was similar among all groups. Clinical success (absence of in hospital death, CABG, Q wave MI or repeat intervention) was achieved in 85, 100 and 96% for PTCA, DCA and Rota respectively (P = 0.026). Post procedural minimal luminal diameter (MLD) was significantly larger in DCA (2.67 ± 0.7 vs. 2.15 ± 0.6, 2.15 ± 0.4 for PTCA and Rota respectively). Cumulative event free survival (freedom from any MI, death, repeat intervention and CABG) was superior for DCA (P = 0.028) and is depicted in the Kaplan-Meier curve. Target lesion revascularization was lower in DCA (19.5% vs. 30 and 26% for PTCA and Rota respectively, P = 0.50).



Conclusion: 1) DCA and Rota result in better immediate outcome than PTCA. 2) DCA results in superior event-free survival than both PTCA and Rotational atherectomy.

1113 Intravascular Ultrasound Assessment of Coronary Remodeling

Tuesday, March 31, 1998, Noon–2:00 p.m.
Georgia World Congress Center, West Exhibit Hall Level
Presentation Hour: Noon–1:00 p.m.

1113-59 Reduced Compensatory Enlargement Response at the Ostium of Left Anterior Descending Coronary Artery: An Intravascular Ultrasound Study

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Background: The ostium (Ost) of left anterior descending coronary artery (LAD) is the first branch point within the coronary tree where coronary artery disease may cause luminal compromise possibly due to various geometric and hemodynamic flow conditions or alteration in shear stress. The purpose of this study was to assess whether compensatory enlargement response is also affected at the ostium of LAD, which is unknown.

Methods: Thirty-three LAD vessels were studied using a 3 Fr catheter-based intravascular ultrasound (IVUS) before intervention or as a diagnostic procedure. An IVUS catheter was advanced to the middle portion of LAD and IVUS images were recorded on a video tape during the motorized slow pullback (0.5 mm/sec). In subsequent off-line analysis, total vessel area (VA), lumen area (LA) and plaque area (PA = VA − LA) were measured at Ost and at a reference position (Ref) which was 10 mm distal from Ost in LAD.

Results: Twenty (61%) of 33 Ost had significantly smaller VA than Ref (18.8 ± 4.8 vs 20.8 ± 4.7 sqmm; p < 0.001) although they had similar PA to Ref (10.4 ± 3.2 vs 11.5 ± 3.9 sqmm; p = NS). Meanwhile, other 13 Ost showed compensatory remodeling with substantially larger VA than Ref (17.6 ± 5.1 vs 15.6 ± 5.4 sqmm; p < 0.005) and similar PA to Ref (9.3 ± 3.7 vs 9.6 ± 3.9 sqmm; p = NS).

Conclusion: In this observational study, the LAD ostium commonly (61%) shows reduced compensatory enlargement compared with the non-ostial proximal LAD segment. This may be due to decreased compliance at the first branch point or tethering by circumflex artery. This property of the LAD ostium may possibly contribute to the specific vessel response such as higher rate of restenosis after balloon angioplasty than non-ostial coronary segments.

TUESDAY POSTER