

11:15

RESTENOSIS FOLLOWING SUCCESSFUL PALMAZ-SCHATZ INTRA CORONARY STENT IMPLANTATION

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To determine whether intracoronary stenting can prevent or reduce restenosis (R) after PTCA, we analysed the angiographic follow-up (mean 4-6 months) in 122 (76%) of 160 consecutive patients (pts) who underwent successful Palmaz-Schatz stent implantation. R defined as > 50% diameter narrowing, occurred in 28 pts (23%): 2 pts had late occlusion and were treated (with repeat PTCA: 1 pt, and medical therapy: 1 pt); 18 pts with recurrence of symptoms and > 70% stenosis required repeat PTCA (14 pts), atherectomy (1 pt) and coronary surgery (3 pts); 8 pts were asymptomatic with normal stress thallium scintigraphy and 50-70% R.

The R rate was 19% (21/110) in pts with single stent implantation and 58% (7/12) in those with multiple stent implanted.

Single stent restenosis rate was 24% (12/49 vessels) in left anterior descending artery, 20% (4/20 vessels) in circumflex artery, 8% (3/36 vessels) in right coronary artery and 25% (2/8 vessels) in saphenous vein graft. In pts with a single stent, the incidence of R was similar in pts stented for R and in pts stented with no prior PTCA 18% (6/34) VS 19% (15/79).

Conclusion: these results suggest that coronary stenting may reduce R following single stent implantation. Late occlusion is a rare event. Multiple stent placement is associated with a high incidence of R and should be avoided.

11:30

RESTENOSIS OF DE NOVO LESIONS IN NATIVE CORONARY ARTERIES FOLLOWING DIRECTIONAL CORONARY ATHERECTOMY: MULTICENTER EXPERIENCE

John B. Simpson, Donald S. Baim, Tomoaki Hinohara, Michael J. Cowley, Mark L. Smucker, David O. Williams and the U.S. Directional Coronary Investigator Group.

The purpose of this study is to evaluate restenosis (RS) of de novo lesions in native coronary arteries following directional coronary atherectomy (DCA) in a recent multicenter experience. DCA performed between November 1988 and July 1989 were included for this analysis. Angiograms were performed at 6 months, or earlier if symptoms recurred. Cine angiograms were reviewed at each investigative center and RS was defined as greater than 50% stenosis. Of the 151 lesions successfully treated (success rate 80%), 117 lesions were evaluated angiographically (78% compliance rate). Results are as follows:

	n	RS	
All lesions	117	26%	
Vessel	LAD	25	28%
	PCA	84	27%
Location	Ostial	16	31%
	Proximal	59	27%
	Mid-distal	42	24%
Length	Focal	69	14%
	Tubular, diffuse	48	44%
Eccentricity	Present	79	24%
	Absent	38	32%

] p<.01

In conclusion, this recent multicenter experience demonstrates an acceptable restenosis rate following DCA of native de novo lesions with a favorable outcome in focal lesions.

11:45

EXCIMER LASER CORONARY ANGIOPLASTY: ACUTE SUCCESS AND SIX MONTH FOLLOW-UP RESULTS.

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Acute success and 6 month follow-up results are evaluated for the first 72 pts treated with Excimer laser coronary angioplasty (ELCA) from May 1989 through February 1990. An over-the-wire xenon chloride Excimer laser was used with catheter tip energy density of 35-50 mjoules/mm². ELCA, either standalone (SA) or with adjunctive PTCA (ELCA+PTCA), was successful in 63/72 pts (88%) as defined by a lesion diameter of <50% or absolute diameter ≥70% of laser catheter diameter. Of the 9 unsuccessful pts, 5 had successful PTCA. Four pts (6%) experienced irreversible vessel closure, 3 due to ELCA dissection and 1 due to balloon dissection. Major complications occurred in 2 pts (3%), 1 MI and 1 emergency CABG. There were no deaths.

In pts with acute ELCA success, repeat angiography was performed at 6 months in 57/63 pts (90%); 29/30 (97%) of SA pts and 28/33 (85%) of ELCA+PTCA pts. Restenosis (>50%) occurred in 27/57 (47%) pts; 15/29 (52%) SA pts and 12/28 (43%) ELCA+PTCA pts. Of the 6 pts not restudied, none had symptoms of ischemia. Two pts with restenosis had atherectomy which demonstrated intimal proliferation similar to PTCA.

CONCLUSION: ELCA can be used with high success rate especially with adjunctive PTCA. Restenosis rates are high, possibly due to significant residual atheroma or intimal proliferative response to ELCA.

Thursday, March 7, 1991

10:30AM-12:00NOON, Room 260, West Concourse Ischemia and Infarction Diagnostic Methods II

10:30

EARLY ANGIOGRAPHY DURING ACUTE MYOCARDIAL INFARCTION: CORRELATION OF SURFACE ELECTROCARDIOGRAPHY WITH CORONARY PATHOANATOMY

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The angiographic features of acute myocardial infarction (MI) with ST segment elevation (ST[↑]) are well established. However, the coronary anatomy during the early phase (≤6hr) of acute MI without ST[↑] has not been defined, and therefore the role of thrombolytic therapy remains uncertain in patients with evolving MI and ST segment depression (ST[↓]) or T wave inversion. Accordingly, we sought to characterize the findings of emergency cardiac catheterization in patients with suspected MI and to correlate the ECG changes with the anatomy of the infarct related artery (IRA). The study population consisted of 59 patients with: (1) Persistent ischemic pain ≥30 min, (2) Emergency catheterization ≤6hr from onset of pain, and (3) No thrombolytic therapy prior to angiography. Patients were classified into two groups: Group I (ST[↑] ≥ 0.1mv in ≥ 2 leads, n=40) or Group II (ST[↓] or primary T wave changes without ST[↑], n=19). Groups I and II were comparable in the mean duration from pain onset to catheterization (175 vs 183 min, p=ns) and in the frequency of single vessel disease (58 vs 47%, p=ns). IRA occlusion (TIMI grade 0 or 1 perfusion) was less frequent in Group II than in Group I (42 vs 93%, p<.001). Thrombus was also less common in Group II (53 vs 83%, p<.02). In patients with complete occlusion, collateral filling of the IRA was present in 63% of Group II vs 16% of Group I (p<.01). Thus, partial perfusion of the IRA by either antegrade or collateral flow was present in 84% of Group II but in only 22% of Group I (p<.001). In conclusion, ST segment changes are highly predictive of IRA anatomy assessed by early angiography. When ST[↑] is present, the IRA characteristically has a complete occlusion and a paucity of collaterals. In contrast, the absence of ST[↑] is associated with residual perfusion to the ischemic bed via either a patent IRA or collateral circulation.