of tissue through the central articulation. Subsequent accumulation of neointimal tissue is uniformly distributed throughout the stent. *We conclude:* Serial intravascular ultrasound imaging shows that restenosis *at the CA* (compared to the edges or body) of Palmaz-Schatz stents is the result of a smaller initial lumen (smaller stent area and tissue prolapse) and not due to a propensity for increased neointimal tissue accumulation.

9:15

732-4 REstenosis STent (REST)-Study: Randomized Trial Comparing Stenting and Balloon Angioplasty for Treatment of Restenosis After Balloon Angioplasty

Raimund Erbel, Michael Haude, Hans W. Höpp, Carlos Macaya, Masakiyo Nobuyoshi, Peter Probst, Martin Sigmund, Hakan Emanuelsson, Bernd Heublein, Wolfgang Rutsch, Gunhild Herrmann, on behalf of the REST Study Group. *Dept. of Cardiology, University Essen, Germany*

The REST-Study is a multicenter randomized trial comparing the implantation of a single Palmaz-Schatz stent vs. balloon angioplasty (PTCA) in patients (pts) with restenosis in native coronary arteries. Pts enrolment (n = 400) was completed in May 1995. According to the protocol, an interim analysis acute and 6-month follow-up (FU) was performed on the first 123 pts. For quantitative coronary angiography, a CMS system (Medis, Netherlands) was used to assess pre, post intervention and at 6 month FU minimal luminal diameter.

	Stenting (n = 85)	PTCA (n = 87)
Reference diameter (mm)	3.01 ± 0.32	3.04 ± 0.26
MLD (mm) pre-intervention	1.25 ± 0.44	1.20 ± 0.35
MLD (mm) post-intervention	3.12 ± 0.43	2.33 ± 0.57
MLD (mm) at FU	2.14 ± 0.66	1.86 ± 0.56
Restenosis with reintervention	11.7%	37%
Acute thrombosis	1.2%	1.2%
Subacute thrombosis	3.5%	–
Emergency CABG	–	–
Bleeding	12.3%	4.6%
Death	–	–

The interim analysis of the REST-Study demonstrates (1) favorable results concerning acute and FU angiographic lumen diameter and (2) a reduced restenosis rate based on necessary reinterventions for stenting compared to PTCA.

9:30

732-5 Stenting in Chronic Coronary Occlusion (SICCO): A Multicenter, Randomized, Controlled Study

Per A. Simes, Svein Golf, Yngvar Myreng, Per Mo/stad, Per Albertsson, Håkan Emanuelsson, Magne Brekke, Arild Mangschau, Knut Endresen, John Kjekshus for the SICCO Study Group. *Feiring Heart Clinic, Feiring, Norway*

Angioplasty of chronic coronary occlusions (CCO) carries a high recurrence rate. We randomized 119 pts. (58 ± 11 years) after initial successful recanalization of CCO (duration ≥ 2 weeks, median 18 weeks, 33% TIMI-1 occlusions) to conventional PTCA or implantation of Palmaz-Schatz stent. The target vessel was LAD in 39%, LCX in 11%, and RCA in 50%. Coronary angiograms at baseline (after PTCA) and at 6 months follow-up examination were analyzed quantitatively.

Analysis of 91 pts. who had completed follow-up by Sep. 95 showed a restenosis (> 50%) rate of 73% in the PTCA group vs. 33% in the stent group (p = 0.0001). Reocclusion rate was 24% vs. 15% (p = 0.27). Angina class, minimal luminal diameter (MLD) and % diameter stenosis were significantly improved in the stent pts. There was one stent delivery failure. Major events (AMI, PTCA or ACB in occlusion territory) occurred in 14 pts. in the PTCA group and 8 pts. in the stent group.

	PTCA (n = 36)		Stent (n = 43)	
	baseline	6 months	baseline	6 months
Angina class (CCS)	2.80 ± 0.53	1.56 ± 1.1	2.72 ± 0.50	0.67 ± 0.95*
MLD (mm)	2.15 ± 0.63	1.11 ± 0.78	2.22 ± 0.51	1.78 ± 0.92*
Reference diameter	3.21 ± 0.53	3.34 ± 0.59	3.14 ± 0.45	3.29 ± 0.61
% Diameter stenosis	33 ± 12	67 ± 24	29 ± 13	46 ± 26*

(*p < 0.05 vs. PTCA). Follow-up will be completed by Dec. 95, and final results will be presented.

Conclusion: Primary stenting of chronic coronary occlusions improves the long term clinical and angiographic outcome.

9:45

732-6 Six Month Clinical and Angiographic Follow-Up of Stenting Without Anticoagulation: The Ticlopidine Aspirin Stent Evaluation (TASTE) Study

Jean-Marc Lablanche, Eugène P. Mc Fadden, Eric Van Belle, Nicolas Danchin, Gilles Grollier, Martial Hamon, Christophe Bauters, Michel E. Bertrand. *University of Lille, France*

Stent implantation without anticoagulation is now standard management in many countries. In a prospective multicenter French study, we have followed patients with stent implantation, managed with ticlopidine 500 mg and aspirin 200 mg daily, without oral anticoagulation. We report the angiographic follow-up in the first 105 patients who underwent successful stent implantation (TIMI grade 3 flow after stenting without in-hospital complication) and who were treated by protocol (ticlopidine continued for at least 1 month). Indications for stenting were failed angioplasty (n = 50), a suboptimal result (n = 41), or electively (n = 14).

During the 6 months after stenting 1 death, unrelated to stenting, occurred (leukaemia): 1 asymptomatic patient underwent bypass surgery (referring physician preference). Ticlopidine related neutropenia occurred in 4 patients (on day 30, 30, 60, 60): allergic reactions occurred in 4 patients (all before day 18): 1 digestive hemorrhage (at 1 month) and one gastritis (3 months) occurred.

At angiographic follow-up, restenosis (> 50% stenosis) was present in 38 stents (36%), including 3 occlusions (3.2%). Intrastent redilatation was performed in 19 (18%) patients; dilatation at non-stented segments in 11 (10.4%) patients.

In a population with a documented high risk of clinical complications stenting managed by antiplatelet therapy alone had an excellent clinical outcome. Further studies are required to determine the factors associated with restenosis in this population.

733 Diastolic Dysfunction: Mechanisms and Potential Treatment

Tuesday, March 26, 1996, 8:30 a.m.–10:00 a.m.
Orange County Convention Center, Room 230C

8:30

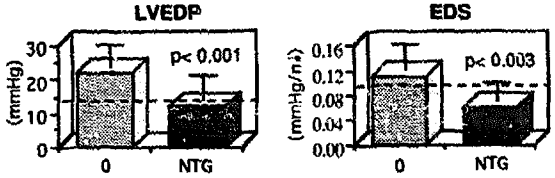
733-1 Improvement of Diastolic Dysfunction in Patients With Aortic Stenosis by Nitroglycerin

Christian Matter, Lazar Mandinov, Giuseppe Vassalli, Otto M. Hess. *Cardiology, University Hospital, Zurich, Switzerland*

Background: Diastolic dysfunction has been reported in the majority of patients with left ventricular (LV) pressure overload hypertrophy. Thus, the purpose of the present study was to evaluate the effect of nitroglycerin (NTG) on diastolic dysfunction in patients (pts) with severe aortic stenosis (AS).

Patients and Methods: A total of 20 pts (10 AS; 10 controls, C) were included in the present analysis. LV high-fidelity pressures and simultaneous LV volumes were determined at rest and after intracoronary administration of 150 µg NTG in AS pts. 7/10 AS pts had diastolic (LVEDP ≥ 14 mmHg) and 4/10 had systolic (EF < 57%) dysfunction.

Results: Ejection fraction (57 vs 59%; NS), LV end-diastolic volume, relaxation rate, early and late peak filling rate, LV end-systolic chamber stiffness as well as the constant of muscle stiffness (9 vs. 7; NS) remained unchanged after NTG. LV end-diastolic pressure (LVEDP), LV peak systolic pressure (LVSP: 204 vs. 190; p < 0.05) and LV end-diastolic chamber stiffness (EDS) decreased after NTG:



Conclusions. Diastolic dysfunction is present in 9/10 pts with severe AS and is improved in 7/10 by NTG, whereas systolic function remains unchanged. Thus, NTG exerts a beneficial effect on diastolic function in LV hypertrophy. This response is probably due to a vasodilatory (unloading) rather than a direct myocardial effect.

TUESDAY ORAL