

5:00 p.m.

ORAL CONTRIBUTIONS

832-5

Catheter-Based Brachytherapy for Aorto-Ostial In-Stent Restenosis

Mehran Moussavian, Manuela Negotia, Jeffrey W. Moses, Martin B. Leon, Roxanna Mehran, John P. Reilly, Mark A. Grise, Paul S. Teirstein, *Scripps Clinic, La Jolla, California.*

Background: Although aorto-ostial lesions have been included in previous radiation trials, the impact of brachytherapy in this patient subset at high risk for restenosis is unknown. Therefore, we examined the efficacy of iridium-192 for aorto-ostial in-stent restenosis. **Methods:** Of 252 patients from Scripps Clinic enrolled in the SCRIPPS III trial, 27 patients had aorto-ostial in-stent restenosis, defined as lesion location within 3 mm of the ostial saphenous vein graft (SVG), left main coronary artery (LMCA), right coronary artery (RCA) or the left internal mammary artery (LIMA). Patients were treated with balloon angioplasty, atherectomy, or stent deployment followed by iridium-192 brachytherapy.

Results: The mean follow-up duration is 337 days. Clinical outcome, death, MI, and need for TLR were obtained. Ostial RCA lesions were present in 14 patients (51%), ostial SVG in 7 (26%), ostial LMCA in 5 (18%), and LIMA in 1 (4%). All patients underwent balloon angioplasty (100%), 5 (17%) had rotational atherectomy, and 7 (26%) had stent deployment. Treatment length was >55 mm in 12 patients (44%). Seven patients (26%) required subsequent TLR. There was one non-cardiac death. TLR was more frequent in patients requiring stent deployment at the time of brachytherapy (57% vs. 15%, $p=0.049$), and in patients with a treatment length >55 mm (50% vs. 6.7%, $p=0.02$). TLR was similar for all lesion locations (28.6% ostial RCA, 25% ostial SVG, 20% LMCA, $p=0.81$).

Conclusions: Brachytherapy using gamma emitters appears to be an effective therapy for treatment of aorto-ostial in-stent restenosis, especially in patients who do not receive a new stent during the radiation procedure and patients who have short ostial lesions.

5:15 p.m.

832-6

Intracoronary Gamma Radiation for In-Stent Restenosis in Saphenous Vein Grafts Versus Native Coronaries

Andrew E. Ajani, Ron Waksman, Edouard Cheneau, Dong-Hun Cha, Hamid Yazdi, Afework Gebreyesus, Veronica Reed, Ellen Pinnow, Lowell F. Satler, Augusto D. Pichard, Kenneth M. Kent, Joseph Lindsay, *Washington Hospital Center, Washington, Dist. of Columbia.*

Background: Intracoronary radiation therapy (IRT) is effective in reducing recurrence of in-stent restenosis (ISR) in native coronary arteries. This study compares the effectiveness and safety of IRT using gamma radiation for the treatment of ISR in saphenous vein grafts (SVG) versus native coronaries. **Methods:** In the WRIST (Washington Radiation for In-Stent restenosis Trial) series of gamma radiation trials, 1142 patients were enrolled (912 in native coronaries and 230 in SVG) and completed 6 months clinical and angiographic follow-up. All patients (pts) underwent PTCA, atherectomy, and/or additional stents. Different ribbon lengths containing 6-23 seeds of 192-Ir or non-radioactive seeds were used to cover lesion lengths <80 mm (mean radiation length of 55 ± 14 mm). The prescribed radiation doses were 14 or 15 Gy to 2 mm radial distance from the center of the source. **Results:** Baseline demographic, angiographic and procedural details were similar, except SVG pts were older (65 ± 13 vs. 61 ± 11 yrs, $p<0.001$), more likely male (80% vs. 64%, $p<0.001$), had more multi-vessel disease (81% vs. 50%, $p<0.001$) and less diffuse lesions (17 ± 10 vs. 24 ± 12 mm, $p<0.001$). Treatment of ISR with gamma radiation in SVG's had similar outcomes to native coronaries (Table). **Conclusions:** Based on this comparison, the use of gamma radiation for the treatment of ISR should be expanded to SVG's.

	SVG (N=230)	Native coronaries (N=912)	P
Death, %	2.4	2.6	0.80
Q-wave MI, %	1.0	1.3	0.77
TLR, %	17.2	14.2	0.29
TVR, %	27.1	23.4	0.23
Late Thrombosis, %	2.1	2.7	0.62
MACE (TLR), %	18.2	15.5	0.35
Angiographic Restenosis (>50%), %	21.7	28.6	0.27

844 Diabetes and Revascularization

Tuesday, March 19, 2002, 8:30 a.m.-10:00 a.m.
Georgia World Congress Center, Room 256W

8:30 a.m.

844-1

Outcomes in Diabetic Patients Undergoing Percutaneous Coronary Intervention: A Report From the NHLBI Dynamic Registry

Warren K. Laskey, Faith Selzer, Janet M. Johnston, Helen O. Vlachos, Alice Jacobs, David R. Holmes, John Douglas, Spencer B. King, III, Peter C. Block, Robert Wilensky, David O. Williams, Katherine Detre, *University of Maryland, Baltimore, Maryland, University of Pittsburgh, Pittsburgh, Pennsylvania.*

Background: Historically, diabetic patients appear to be at increased risk for adverse outcomes following percutaneous coronary intervention (PCI). Advancing technology has improved PCI outcomes overall but the impact of contemporary PCI among diabetics is unknown. **Objective:** To determine whether advances in technology and adjunctive pharmacology have affected short and long-term adverse outcomes in diabetics compared to non-diabetics. **Methods:** This analysis includes 4632 Dynamic Registry patients from two enrollment waves, 1997-98 and 1999. Diabetes was defined as current use of either insulin or oral hypoglycemic agents; 1056 patients (23%) were classified as diabetic. **Results:** Compared to non-diabetics, diabetics were significantly ($p<0.05$) more likely to be female (47% vs 33%), non-white (31.5% vs 17%), to have a history of renal (8% vs 3%) and peripheral vascular disease (11% vs 6%), to have had a prior PCI (35% vs 27%) and CABG (22% vs 15%), to present with triple vessel disease (32% vs 23%) and to have more total occlusions (41% vs 37%). Total angiographic success rates (94% vs 93%) as well as angiographic complication rates were similar between groups. In-hospital mortality was increased in diabetics (2.3% vs 1.3%; $p=0.02$), however after adjustment for important baseline factors, there was no significant difference for risk of in-hospital mortality between groups (OR=1.46, 95% Confidence Interval (CI) 0.79-2.67). At 1-year, diabetics had higher cumulative mortality (9.0% vs 4.1%, $p<0.001$) and risk of death remained higher following adjustment (RR=1.79, 95% CI 1.32-2.42). Diabetics also had a higher adjusted risk for the composite endpoint of death/MI/CABG at 1-year (RR=1.21, 95% CI 1.00-1.45). **Conclusions:** Despite having more clinical, procedural and angiographic risk factors, diabetics were at no greater risk of major in-hospital adverse events. Regardless of advances in PCI, diabetics were more likely to die or experience an adverse event during late follow-up.

8:45 a.m.

844-2

Percutaneous Coronary Interventions in Diabetic Patients: The Impact of Complete Revascularization on Long-Term Prognosis

Evgenia Nikolov, Chandrashekar Patil, Ariel Roguin, Sirouch Petcherski, Michael Kapeliovich, Shai Linn, Monther Boulos, Ehud Grenadier, Walter Markiewicz, Rafael Beyar, *Rambam Medical Center, Haifa, Israel, Rappaport Faculty of Medicine-Technion, Haifa, Israel.*

Background: Long-term prognosis of diabetic patients with multivessel coronary artery disease (CAD) treated with either surgical or percutaneous revascularization is significantly worse compared to non-diabetics. Lower rates of complete revascularization may be one of the factors of poor long-term outcome in diabetic population. The aim of our study was to assess the impact of complete revascularization (no residual stenosis > 50% in any major coronary artery or their large branches more than 1.5 mm in diameter) on long term prognosis in diabetic patients with CAD treated by percutaneous coronary interventions (PCI).

Methods and Results: The study included 352 consecutive diabetic patients (mean age 60.9 ± 10.1 years) with multivessel CAD that were treated at our center from January 1, 1992 to December 1, 1999. Revascularization was complete in 94 (26.7%) and incomplete in 258 (73.3%) patients. The reasons for incomplete revascularization were small vessel size (1.5-2.5 mm), target vessel revascularization strategy and chronic total occlusions. Procedural success was achieved in 96.4% of the cases. The rate of in-hospital major adverse cardiac events (MACE) was 1.7%. At mean follow-up of 3.1 ± 1.7 years MACE were registered in 112 (31.8%) patients and included death (9.1%), myocardial infarction (MI) [3%] and repeat revascularizations (22.5%), most of them re-PCI (18.4%). The rates of 5-year survival and survival free from MI in the whole group were 87.4% and 84.5%, respectively, being significantly higher ($p<0.001$) in the arm with complete (94.5% and 92.9%) compared to group with incomplete revascularization (83% and 79.9%). Multivariate analysis identified age, female gender, left ventricle dysfunction, and incomplete revascularization as independent predictors of mortality ($p=0.002$; 0.025; 0.0001 and 0.003, respectively), while left ventricle dysfunction and incomplete revascularization as predictors of total MACE at follow-up ($p=0.002$ and 0.004, respectively).

Conclusions. Completeness of myocardial revascularization may have positive impact on long-term prognosis of diabetic patients with multivessel CAD treated with PCI.