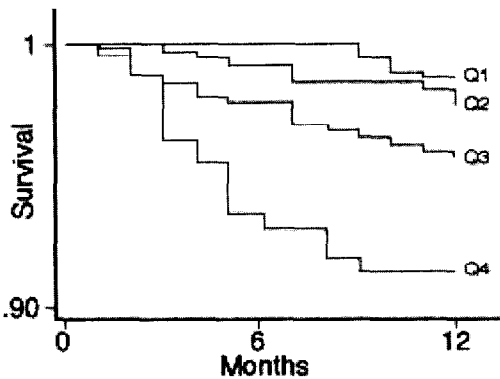


1.43),  $p < 0.003$ ). **Conclusion:** In addition to its demonstrated prognostic value for short-term outcomes after PCI, the present data suggest that an elevated baseline CRP is an equally powerful predictor of outcomes at one year following PCI.



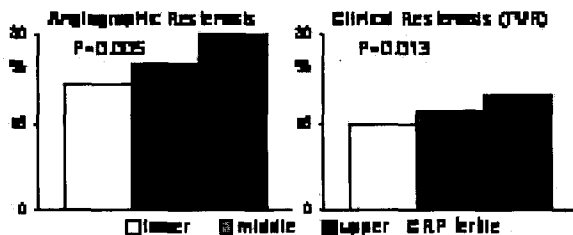
11:15 a.m.

**813-2 Inflammatory Response After Intervention as Assessed by Serial C-Reactive Protein Measurements Correlates With Restenosis in Patients Treated With Coronary Stenting**

**Alban Dibra, Julinda Mehilli, Sigmund Braun, Adnan Kastrati, Josef Dirschinger, Martin Hadamitzki, Albert Schomig, Deutsches Herzzentrum Muenchen, Muenchen, Germany, Med. Klinik rechts der Isar, Muenchen, Germany**

Contradictory results have been reported about the prognostic value of inflammation markers for restenosis after coronary stenting (CS). We have previously found no correlation between baseline C-reactive protein (CRP) levels and in-stent restenosis. We studied the correlation between inflammatory response to the intervention as measured by the change in CRP levels after CS and restenosis. We included 1,955 consecutive pts with stable or unstable angina treated with CS. CRP levels were measured before and 12, 24, 48 and 72 hours after CS by a high sensitivity assay. The difference (?) between peak CRP values after CS and CRP values before CS was calculated. Pts were grouped into tertiles according to ? CRP values. Angiographic restenosis was defined as a diameter stenosis  $\geq 50\%$  at 6-month follow-up angiography. Target vessel revascularization (TVR) was performed in the presence of angiographic restenosis and symptoms or signs of ischemia. Although no relationship was found between CRP values at baseline and angiographic restenosis ( $P=0.32$ ), a strong correlation was observed between ? CRP values and angiographic and clinical restenosis ( $P=0.005$  and  $P=0.013$ , respectively) (Figure). The correlation remained significant after adjusting for other covariates.

**Conclusion:** The grade of inflammatory response after stent implantation as assessed by the difference in CRP levels before and after intervention, is a strong predictor of both angiographic and clinical restenosis.



11:30 a.m.

**813-3 Predictors of Clinical and Angiographic Restenosis in the Sirolimus-Eluting Bx VELOCITY Stent Trial**

**Laura Mauri, Jeffrey J. Popma, Peter J. Fitzgerald, Martin B. Leon, Jeffrey W. Moses, David R. Holmes, Richard E. Kuntz, Brigham & Women's Hospital, Boston, MA, Lenox Hill Hospital, New York, NY**

**Background:** The SIRIUS trial randomized 1,101 patients and demonstrated superiority of the sirolimus-eluting Bx VELOCITY stent over the standard Bx VELOCITY stent in the prevention of restenosis in *de novo* coronary lesions. We investigated whether classical predictors of restenosis remain important in the presence of sirolimus-eluting stents.

**Methods:** Multivariable logistic regression models were constructed to predict target lesion revascularization (TLR, repeat percutaneous intervention of the target lesion or bypass surgery of the target vessel at 270 days) and binary angiographic restenosis (BAR,  $\geq 50\%$  diameter stenosis at 8 months). Predictors were chosen from selected baseline clinical and angiographic characteristics by a stepwise selection procedure.

**Results:** The mean reference vessel diameter was  $2.80 \pm 0.47$ mm, lesion length  $14.4 \pm 5.8$ mm, and diabetes prevalence 26.4%. TLR rates were 3.9% (21/533, sirolimus-eluting) vs. 16.6% (87/531, control),  $p < 0.001$ , and BAR 3.2% (11/348) vs. 35.4% (125/353),  $p < 0.001$ . Predictors of TLR and BAR are shown in the table below. **Conclusion:** The strongest predictor of restenosis was treatment assignment, followed by conven-

tional factors (smaller minimal lumen diameter, longer stent length, and the presence of diabetes), which had clinically moderate and statistically significant effects. This suggests that patients at moderate to high risk of restenosis benefit strongly from sirolimus-coated stents.

	Odds Ratio	P-Value
<b>Predictors of Target Lesion Revascularization</b>		
Treatment (control vs. sirolimus-eluting stent)	5.97	0.0001
Stent Length (per mm)	1.04	0.0003
Post-Procedure Minimal Lumen Diameter (per mm)	0.37	0.0005
Canadian Cardiovascular Society Class III/IV	1.75	0.012
Prior Coronary Bypass Graft Surgery	2.15	0.014
Diabetes	1.64	0.030
<b>Predictors of Binary Angiographic Restenosis</b>		
Treatment (control vs. sirolimus-eluting stent)	22.61	0.0001
Diabetes	2.48	0.0001
Stent Length (per mm)	1.04	0.0006
Prior Coronary Bypass Graft Surgery	2.84	0.003
Pre-Procedure Minimal Lumen Diameter (per mm)	0.50	0.027
Post-Procedure Diameter Stenosis	1.03	0.032

11:45 a.m.

**813-4 Intravascular Ultrasound Predictors of Late Recurrence After Stent Implantation in Small Coronary Arteries**

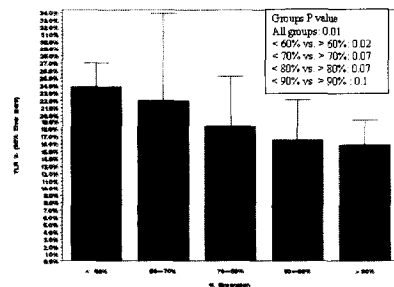
**Ioannis Iakovou, George Dangas, Roxana Mehran, Gary S. Mintz, Alexandra J. Lansky, Milena G. Adamian, Makoto Hirose, Yoshio Kobayashi, Issam Moussa, Gregg W. Stone, Jeffrey W. Moses, Martin B. Leon, Cardiovascular Research Foundation, New York, NY**

**Introduction:** We sought to determine predictors of late recurrence after intravascular ultrasound (IVUS)-guided stent implantation in small coronary arteries.

**Methods:** We identified 1457 consecutive patients who underwent 1514 IVUS-guided small vessel stenting procedures in 1637 coronary lesions with an angiographic reference vessel diameter  $< 2.75$ mm. Patients were divided in two groups based on the final IVUS lumen area:  $\leq 6$ mm<sup>2</sup> (n=991, group I) and  $> 6$ mm<sup>2</sup> (n=466, group II).

**Results:** Baseline patient characteristics were similar between the 2 groups. Group I had higher target lesion revascularization (TLR) compared to Group II patients (20.3% vs. 14.9%,  $p=0.04$ ). TLR decreased with increasing percent stent expansion (% Expansion = Final Lumen CSA / [Proximal Lumen CSA + Distal Lumen CSA] / 2) (Figure). Stent over-expansion, defined as percent expansion  $> 90\%$ , occurred in 33.5% of the procedures. By multivariate analysis a smaller IVUS final lumen CSA (under 6mm<sup>2</sup>), diabetes, and smaller angiographic reference vessel diameter were independent predictors of 1-year TLR.

**Conclusions:** Despite frequent stent overexpansion, a final lumen area  $> 6.0$ mm<sup>2</sup> was associated with a reduction in TLR. Therefore, there does not appear to be any "restenosis-related downside" to aggressive stent implantation strategies in small vessels. To the contrary, IVUS should be used to maximize final lumen dimensions to minimize clinical restenosis.



Figure