Conclusions: The occurrence of adventitial thickening and expansive remodeling after intravascular irradiation might explain the increased incidence of late MACE after coronary brachytherapy.

1099-192 A Risk Score for Prediction of Contrast Induced Nephropathy After Percutaneous Coronary Intervention

Roxana Mehran, Ev D. Aymong, George Dangas, Andrea S. Abizaid, Alexandre A. Abizaid, Gary S. Mitzt, Milena G. Adalman, Issam Moussa, Alexandra J. Lansky, Gregg W. Stone, Jeffrey W. Moses, Martin B. Leon, Lenox Hill Heart and Vascular Institute, Cardiovascular Research Foundation, New York, NY

Background: Contrast induced nephropathy (CIN) is a common cause of renal failure and correlates with higher in-hospital and late mortality after percutaneous coronary intervention (PCI). Objective: To develop a simple risk score that has broad applicability, is easily calculated at presentation, and identifies pts with different responses to contrast exposure. Methods: The Cardiovascular Research Foundation (CRF) prospective database was probed to identify 9726 consecutive pts undergoing PCI. Univariate predictors for CIN (defined as 25% rise in baseline creatinine) were identified. The risk score was derived by selection of independent prognostic variables using multivariate logistic regression. Assignment of value of 1 when a factor was present and 0 when it was absent, and summing the number of factors present to categorize patients into risk strata. Results: The eight risk score predictor variables were: Chronic renal failure (Cr>2 mg/dl), or creatinine clearance <60 ml/min, age > 70 yrs, diabetes mellitus, female gender, left ventricular ejection fraction < 40%, acute coronary syndrome presentation, contrast volume >150cc, and IABP use. Incidence of CIN increased significantly as the risk score increased in this cohort. Conclusion: In pts undergoing PCI, the CRF risk score is a simple prognostic scheme that categorizes a pt's risk of CIN and provides a basis for important modifications in the procedural related factors which are controlled by the operator (ie: contrast volume).

1099-193 Totally Occluded In-Stent Restenotic Lesions Treated With Gamma Intracoronary Radiation: Six-Month Clinical and Angiographic Outcomes


Background: Intracoronary radiation therapy (IRT) has become the treatment strategy of choice for in-stent restenosis (ISR). However, its role in totally occluded ISR lesions has been poorly characterized. The objective of this study was to evaluate the safety and long-term efficacy of gamma IRT in patients with totally occluded ISR lesions. Methods and Results: Six hundred and sixty nine consecutive patients (pts) were selected from the WRIST (Washington Radiation for In-Stent Restenosis Trial) series of gamma IRT trials designed to assess the role of IRT for ISR. Of the total cohort, 66 (12.9%) pts had totally occluded (10) ISR and had similar demographic and procedural characteristics to 587 pts with non-total occlusion (NTO) ISR. Six-month clinical and angiographic outcomes were equivalent in both groups (Table). Eighty-two (95%) patients with TO ISR had successful revascularization with conventional percutaneous coronary intervention.

TO ISR (N=82) NTO ISR (N=587) P
Late Loss, mm 0.6 ± 0.9 0.4 ± 0.7 0.12
Angiographic Binary Restenosis, % 32 21 0.12
Death, % 4 3 0.71
Q-wave Myocardial Infarction, % 3 1 0.36
Target Lesion Revascularization, % 20 20 0.66
Target Vessel Revascularization, % 24 28 0.41
Late Thrombosis, % 8 4 0.13
Major Adverse Cardiac Events, % 21 22 0.92

Conclusions: Gamma IRT for ISR with total occlusion is feasible, safe, and associated with comparable outcomes as non-occlusive ISR. Totally occluded ISR lesions should become an important indication for gamma intracoronary radiation.