A Comparative Analysis of Major Clinical Outcomes Using Drug-Eluting Stents Versus Bare Metal Stents in Diabetic versus Non-Diabetic Patients.

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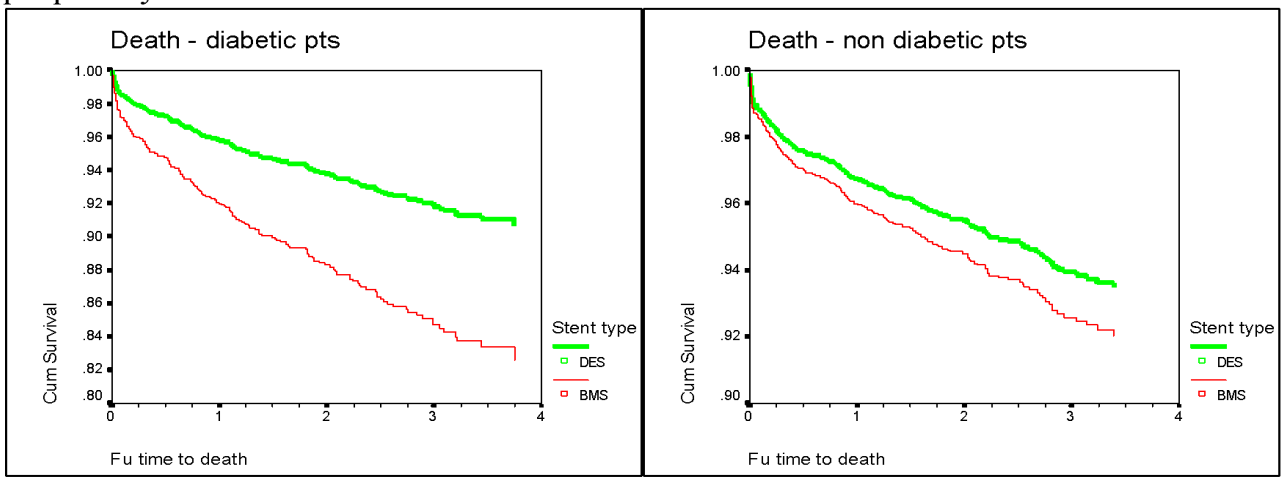
Background: Diabetic patients have been defined as a preferential target population for the use of drug eluting stents (DES) by the Israeli reimbursement policy. We aimed to check the safety and possible benefit of DES use in diabetics versus non diabetics.

Methods: We compared risk-adjusted total mortality, myocardial infarction, repeat target vessel revascularization rates and event-free survival in a consecutive cohort of 4700 patients undergoing PCI at our institution between 1/4/2004 and 30/6/2007, of whom 1830 were diabetic and 2870 were non diabetic. Follow up time was 9 months to 4 years (mean 2.44 years).

Results: Drug eluting stents were used in 44.9% of diabetics vs. 40.4% of non-diabetics (p=0.002). Diabetic patients were older, had more hypertension, congestive heart failure, prior CABG, multivessel disease and had more lesions treated, with slightly longer stents. Diabetic patients had a lower 4 year cumulative mortality rate with use of a DES (9.7%) versus use of a BMS (18.3%) with a propensity score adjusted hazard ratio of 0.51 (CI-0.37-0.72; p<0.0001) . Non diabetic patients had overall lower mortality rates but only a trend for benefit using DES (DES 6.61% vs. BMS 9.59%; p=0.2). This pattern was similar for other cardiac outcome measures.

Figures: Cox proportional hazards plots adjusted for stent type, diabetes mellitus and propensity score



Conclusions: Our risk-adjusted survival analysis would indicate a prognostic advantage for DES utilization *primarily* in diabetic patients which sustains up to 4 years following PCI, whereas non diabetic patients derive less prognostic benefit from DES coronary treatment.