In-stent Thrombosis in DES: Clinical Characteristics and Adverse Outcomes

Hana Vaknin-assa, Abid Assali, Shmrit Ukabi, David Brosh, Igal Teplitsky, Eldad Rechavia, Shmuel Fuchs, Ran Kornowski

Cardiology Department, Interventional Cardiology, Rabin Medical Center, Petach Tikva, Sackler Faculty of Medicine, Tel Aviv University, Tel-Aviv, Israel

Objective: To describe a consecutive group of patients' outcomes who developed drug-eluting stent (DES) in-stent thrombosis (ST) at our hospitals.

Methods: The rate of ST according to ARC definition and major adverse cardiac events (MACE a composite of cardiac death, myocardial infarction and Re-ST) was analyzed. Thirty consecutive patients have developed DES related ST, in a series of 4394 patients who were implanted between 2004 and 11/2008.

Results: The overall early and late definitive ST rate was 0.68% . Stents implanted were Cypher (2496), Endeavor (814), and Taxus (614), Xience V (472). ST rate was 24/2496 (0.96%) in Cypher, 1/814 (0.12%) in Endeavor and 3/614 (0.49%) in Taxus and 0/472 (0%) in Xience V. The time interval to thrombosis was 21±43 months [median 24-range 0.1-48 months]. Six cases occurred within one month of stenting and 24 cases occurred later (early ST=0.14% and late/very late ST rate =0.54%).

Mean age was 61±13 yrs, 79% were male, and 29% had diabetes mellitus. Lesion location was mostly in the LAD (15/30). The clinical presentation during the ST event was STEMI in 97% of cases. In two ST afflicted patients, we also noticed a stent fracture. During follow up, death occurred in 2 (9.5%) patients, recurrent myocardial infarction in one (4.8%), emergency CABG was needed in 3(14%), and recurrent ST occurred in one (4.8%) additional patient. The repeat MACE following ST was 24%.

Conclusions: According to our experience, DES-related ST is relatively infrequent but remains a major clinical problem. Major adverse cardiac events following ST are substantial at six month and thus deserve careful clinical attention.