

Prediction of timing of Sirolimus-Eluting Stent fracture and Eight Year Clinical outcomes.

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Purpose Stent fracture (SF) is an unanticipated adverse event, reported with drug-eluting stents. Although SF is usually discovered at the time of angiographic follow up, we do not know the exact timing of SF occurrence because SF itself is not always associated with clinical recurrence. Also, we are unaware of long term clinical outcomes of SF. Methods We prospectively performed fluoroscopic surveillance in high risk stent (sirolimus-eluting stents with total stented length over 30mm) to detect SF at three pre-defined follow-up periods (at hospital discharge and at 3months and 6months after intervention). We performed follow up angiography in case of SF. We analyzed clinical outcomes according to SF after eight years. Result From August 2005 to January 2007, 215stents in 169patients (male 66.3%, age 63±11) were included in this study and 130patients (77.4%) completed three-times fluoroscopic surveillance. Total twelve SF were discovered (7.1%). All stents were those implanted at right coronary artery and showed high prevalence of stent overlapping (66.7%). All SF were discovered before 1month follow-up period except one (after 2months) and three of them were found before hospital discharge(6,3 and 4 days after intervention). At eight years, no significant differences were observed in major adverse cardiac events(MACE) between SF versus non-SF patients. Conclusion SF occurred earlier than expected. However, clinical outcomes were not significantly different MACE according to SF after eight years.