

Incidence and Clinical Outcomes associated with Stent Fracture in Contemporary Percutaneous Coronary Intervention with Drug-eluting Stents

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Background Stent fracture (SF) is associated with an increased risk of in-stent restenosis (ISR), even in the drug-eluting stent (DES) era. Method: Study population consisted of 2080 pts (3384 lesions) underwent PCI, among which 9 pts (10 SFs) were angiographically detected. We investigated the mid-term outcomes of the pts after PCI for SF. Results: Out of 3384 lesions treated with PCI with DES, 1453 (69.9%) pts underwent angiographic follow-up. The angiographically documented SF was in 0.69% (10/1453). The mean age of SF pts was 67.8 ± 5.5 years and 5 pts (55.5%) were male. The duration from the stent implantation to the SF detection was 10.0 ± 5.3 months. The fractured stents detected were Cypher (7/456, 1.53%), Taxus (2/607, 0.33%) and Endeavor 1/233, 0.43%) stents (Cypher vs non-Cypher=1.5% vs 0.4%, $p=0.021$). Predilection SF sites were in LAD (50%, proximal=1, mid=4), LCX (30%, proximal=1, mid=1, distal=1) and RCA (20%, proximal=1, distal=1). The sizes of the fractured stents were 2.67 ± 0.20 (2.25–2.75) mm in diameter and 25.0 ± 6.7 (15–33) mm in length. Complete SF was found in 50%. Six SFs (5 Cypher, 1 Taxus) were associated with significant ISR and underwent. The rest of 4 SF without ISR were not treated. Within 7.8 ± 6.5 (3–21) months follow-up, there was no recurrent SF, death, MI. Conclusion: SF in the DES era was not frequent but tends to occur in small vessels, long lesions and associated with Cypher stent implantation. 50% of SF was associated with ISR and underwent repeat PCI suggesting careful monitoring needed in this pts.