NATURAL HISTORY OF SIDE BRANCH JAILED BY DRUG ELUTING STENT

i2 Oral Contributions
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Background: Stent deployment across side branch (SB) ostium is common in daily practice. The present study investigated the natural history of SBs jailed by drug eluting stents (DES).

Methods: Of 642 patients with 756 lesions treated with DES between April 2007 and March 2008, the Thrombolysis In Myocardial Infarction (TIMI) flow grades of 271 consecutive de-novo SBs (>1mm) jailed by DES in 196 patients were assessed immediately after the procedure and at 9 months. (follow-up angiogram rate:89.0%). Patients receiving any SB intervention were excluded.

Results: Of 271 jailed SBs, occlusion occurred in 6.27% and deterioration of flow occurred in 6.27% immediately after stenting. In patients with these SB changes, peri-procedural myocardial infarction was more likely than in those without (10.0% vs. 1.8%, p=0.017), while there was no increase of cardiac death or life-threatening complications such as stent thrombosis and Q-wave myocardial infarction during follow up. At 9 months, angiography showed that one third of the initially obstructed SBs were still occluded. In contrast, flow was maintained in almost all (98.6%) SBs with early TIMI flow grade 3 and there was no delayed occlusion of these branches. In multiple regression analysis, Medina bifurcation class (1,1,1) (OR 24.7, 95%CI 3.3-185.7; p<0.01), SB jailed by stent overlap zone (OR 5.74, 95%CI 1.0-32.8; p<0.05), and calcified lesion (OR 4.6, 95%CI 1.1-19.7; p<0.01) were related to flow-detrioration in jailed SB. Preprocedure TIMI grade2 flow in SB (OR 5.9, 95%CI 1.3-27.7; p<0.05) was contributors of SB occlusion.

Conclusions: Jailed SBs showing good flow after stenting had a favorable angiographic and clinical outcome after 9 months of follow-up. However, pre-procedural lesion complexity and technical factors should be considered to avoid SB occlusion/flow deterioration associated with periprocedural myocardial infarction.