



Thrombogenicity after Bifurcation Stenting-Prolonged Dual Anti-Platelet Therapy can Prevent Very Late Stent Thrombosis after Bifurcation Crush Stenting

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Editorial

It should be recognized that Very Late Stent Thrombosis (VLST) after bifurcation crush technique can occur even after 5 years, as the “therapeutic threshold” [1] for stent thrombosis may never reach zero. This is due to delayed endothelialization of the stent struts in the main branch at the bifurcation where there are three layers of stent struts (2 layers of “crushed” side branch stent struts and one layer of main branch stent strut). Since each bifurcation stent patient could be left with variable amount of this 3 layers of stent struts depending on individual lesion characteristics-length of the side branch stent crushed, angle of the bifurcation, lesion calcification leading to under expansion of the stent, size of side branch and distal flow, it would be impossible for physicians to individualize the risk of VLST just on the basis of type of stent used or type of bifurcation intervention. A safe strategy necessitates use of Dual Anti-Platelet Therapy (DAPT) to be continued for an extended period, indefinitely.

We have employed this strategy in a series of 144 consecutive patients, without occurrence of stent thrombosis [2]. All patients were prescribed DAPT. All patients were prescribed daily aspirin 81 mg and clopidogrel 75 mg. The patients were either followed clinically or by telephone follow-up for occurrence of death, myocardial infarction, target vessel revascularization or stent thrombosis. The mean follow-up of the patients was 4.5 years. One patient developed subdural hematoma following head injury 5 years after index PCI and after the DAPT was withheld, stent thrombosis and myocardial infarction occurred necessitating repeat Percutaneous Coronary Intervention (PCI). There was no occurrence of VLST, myocardial infarction in all the other 143 patients who were compliant with the regimen of DAPT. There was no death in the cohort. Two patients developed restenosis of the bifurcation lesion leading to Coronary Artery Bypass Graft Surgery (CABG). There were no other life-threatening bleeding events in the other patients.

In conclusion, Very Late Stent Thrombosis (VLST) can occur even five years after “crush” technique stenting, suggesting that endothelialization of the stent struts may not be complete even after 5 years. Dual Anti-Platelet Therapy (DAPT), possibly indefinitely, with daily aspirin and clopidogrel may be required to ensure stent patency after stenting of the bifurcations with “crush” technique.

References

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