First experience after implantation of ultrathin-strut biodegradable polymer-coated long (44/48 mm) everolimus-eluting stents for treatment of long atherosclerotic lesions in real-world scenario


(1) Lalitha Super Specialities Hospital, Guntur INDIA

THEME:  Coronary Interventions

TOPIC(S):  Stents and scaffolds, Other Coronary Interventions

AIMS
The study investigated procedural and clinical outcomes after 6 months of implantation of ultrathin-strut (60 μm) biodegradable polymer coated long (44/48 mm) everolimus-eluting stents in real-world patients with long atherosclerotic coronary lesions

METHODS AND RESULTS
This was a real-world, single-center, observational study that incorporated 105 patients who underwent implantation of Tetrilimus everolimus-eluting stent (Sahajanand Medical Technologies Pvt. Ltd., Surat, India) for treatment of coronary artery disease between February, 2016 and July, 2016 at a tertiary care center of India. Data were sourced from clinical notes, angiogram reports and procedural reports. All patients in whom 44/48 mm Tetrilimus stent was implanted during routine clinical practice were included in the study, except those in whom already some other stent had been implanted. The patients were followed up to six months after the index procedure. Follow-up of all patients was achieved by either clinical database review or telephone follow-up for clinical events, depending upon the length of follow-up achieved clinically. Occurrence of any major adverse cardiac event (MACE) up to 6-month follow-up was the primary endpoint of the study. The MACE was considered as a conglomerate of cardiac death, myocardial infarction (MI), target lesion revascularization (TLR) and target vessel revascularisation (TVR). The occurrence of stent thrombosis (ST) was also analysed as per the Academic Research Consortium.

The study population included 64 (61.0%) males and average age was 58.2±10.0 years. The rates of hypertension and diabetes were 52.4% and 37.1%, respectively. Of total patients, 24 patients were current smokers. Thirty-four (32.4%), 33 (31.4%), 24 (22.9%), and 14 (13.3%) patients presented with non-ST-elevation myocardial infarction, stable angina, unstable angina, and ST-elevation myocardial infarction, respectively. There were 14, 45, and 55 lesions located in left circumflex artery, left anterior descending artery, and right coronary artery, respectively. There were 11 (9.6%) totally occluded lesions. A total of 114 lesions were intervened successfully with only one stent been implanted per lesion. The average stent length and diameter were 46.3 ± 2.0 mm and 2.8 ± 0.3 mm, respectively. All lesions were pre- and post-dilated. Device success rate, lesion success rate, and procedural success rate were all 100%. Six-month follow-up was attained in all patients. There was no incidence of MACE up to 6-month follow-up.

CONCLUSIONS
Implantation of long Tetrilimus stents was associated with excellent procedural performance and clinical outcomes with no incidence of MACE up to 6-month follow-up. Long-term follow-up would provide base for more widespread use of long drug-eluting stents in complex coronary artery lesions in contemporary clinical practice.