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Procedural safety and one month outcome of patients treated with magnesium bioresorbable scaffold

Nicholas Chua, Mohd Kamal Mohd Arshad, Rizmy Najme Khir, Lim Chiao Wen, Johan Rizwal, Effa Abdul Rahman, Hafisyatul Aiza, Zubin Othman Ibrahim and Sazzli Kasim
University of Technology MARA (UiTM), Malaysia

Background: Magnesium Bioresorbable Scaffold (BRS) was launched last year. The advantage of using BRS include, reduced long-term complications such as stent fracture, late stent thrombosis and in-stent restenosis with return of normal vasomotor function and late lumen gain with plaque regression. However, procedural safety and long-term outcome data is scarce.

Objective: The objective of the study is to identify safety and outcome of patients undergoing Percutaneous Coronary Intervention (PCI) with magnesium BRS.

Materials & Methods: This was a prospective, observational single center study conducted in UiTM Sungai Buloh from 1st November 2016 to 14th February 2017.

Results: 7 patients who were enrolled had mean age of 46 (9). All were male. Ethnicity breakdown showed 5 Malays, 1 Chinese and 1 Indian. Cardiovascular risk assessment revealed 85.7% diabetes mellitus, 42.9% smokers, 28.6% hypertension and 28.6% dyslipidemia. Target vessels treated were 6 left anterior descending (LAD) and 1 right coronary artery (RCA). Out of the 7 patients, 28.6% were type A lesions, 42.8% were type B1 and 28.5% were type C. Among those, 4 involved LAD-D1 bifurcations and 2 were Chronic Total Occlusions (CTO). The lesions were prepared with semi-compliant balloons in 5 cases and non-compliant balloons in 2 cases. The balloon-to-stent ratio were 1:1 (n=1), 0.92:1 (n=1), 0.85:1 (n=4) and 0.83:1 (n=1). The magnesium BRS diameters used were 3.5 mm (n=4) and 3.0 mm (n=3) with length of 15 mm (n=1), 20 mm (n=4) and 25 mm (n=2). Post-dilatation in one patient was carried out with non-compliant balloon of equal diameter to the stent, while the rest had upsizing with +0.5 mm larger balloons. Procedural outcome was 100% successful. At one-month follow-up, there were no symptoms, MACE or TLR.

Conclusions: We demonstrated safety and good short-term outcome in the use of magnesium BRS in our cohort. However, larger cohort and long-term outcome monitoring would better delineate the safety and efficacy of this BRS.

Biography

Nicholas Chua is an Interventional Cardiology Fellow and Medical Lecturer at University of Technology MARA, Malaysia. His expertise is on Clinical Medicine, Undergraduate Teaching and Interventional Cardiology. His ongoing researches are on young acute coronary syndrome, statin therapy and dysfunctional HDL cholesterol.

octonick@yahoo.com

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