

Feasibility and Clinical Outcome of 48 Mm Drug Eluting Stent Treatment of Long Coronary Lesions in The Egyptian Population

Mohamed Alaa AbdelAziz , Ahmed Mahmoud El Amrawy, Mohamed Ibrahim Loutfi, Salah Mohamed EL-Tahan

BACKGROUND:

Long Coronary lesions represent a formidable challenge during percutaneous coronary intervention. Implantation of multiple contiguous stents may result in sections of overlapping stents or gaps of unstented segments and is an independent predictor of restenosis and major adverse cardiovascular events.

OBJECTIVE:

To assess the feasibility, immediate and short term clinical outcome of implanting 48 mm drug eluting stents with different diameters in treatment of long lesions in coronary artery disease in the Egyptian population.

METHODS:

The study is a prospective study enrolling 110 consecutive subjects from 2 centers in Alexandria with a single coronary lesion planned to undergo percutaneous coronary intervention and attempted implantation of a 48 mm drug eluting stent. Baseline clinical data, procedural outcomes and clinical follow-up to 6 months were obtained. Major adverse cardiovascular events were considered the combined study end point defined as cardiac death, non-fatal myocardial infarction, unstable angina and the need for target lesion revascularization (TLR).

RESULTS:

Among the 110 subjects enrolled, 85.5% were males, mean age 60.8 ± 8.6 years. Procedural success rate was 98.2%. Lesions were treated with 48 mm DES, all post-dilated at high atmosphere (>20 atmosphere) with non-compliant balloons. Mean stent size was 3.16 ± 0.38 . Failure of crossing was encountered in 2 subjects due to severe tortuosity. No intra-hospital events occurred. Six-month clinical outcome was compared between diabetic (DM) ($n= 23$) and non-DM patients ($n= 87$). Baseline characteristics were similar in the two groups, and 6-month cumulative major adverse cardiac events were significantly lower in the non-DM than in DM group (3.4% in non-DM vs. 17% in DM, $p= 0.015$). Clinically driven TLR was 2.7% and no cardiac death was reported. The independent predictors of repeat revascularization were insulin treated type 2 diabetes mellitus, reference vessel diameter (RVD) ≤ 2.75 mm and the use of old generation DES.

CONCLUSION:

The use of 48 mm drug eluting stents is feasible, safe and cost effective in treatment of long coronary lesions. Independent predictors of repeat revascularization is type 2 diabetes mellitus, reference vessel diameter ≤ 2.75 mm and the use of old generation of DES.