The impact of biodegradable polymer drug eluting stents on the outcome of percutaneous coronary intervention in patients with acute coronary syndrome.

Background and Objectives

The early benefit of early generation of drug eluting stent (DES) in terms of target lesion revascularization compared to bare metal stents was offset by increased incidence risk of late stent thrombosis. Newer generation biodegradable polymer DES was seen to improve vascular healing and clinical outcome.

In this study we aim to assess of the role of biodegradable polymer DES in decreasing the incidence of major adverse cardiac events (MACE) after percutaneous coronary intervention (PCI) in comparison with durable polymer DES in patients with non−ST-segment elevation acute coronary syndromes (NSTEACS).

Methodology and Results

This is a prospective, randomized study to compare between biodegradable polymer DES and durable DES.

A total of 121 patients presenting to Critical Care Medicine Department, Cairo University with (NSTE-ACS). Participants were followed up clinically after 1-2 years. 52 of the patients with 69 lesions were allocated to treatment with BP DES and 69 patients with 86 lesions to treatment with DP DES.

For overall incidence of in-hospital complications, comprising acute myocardial infarction, need for target lesion revascularization, urgent deferral to CABG and death there was no significant difference among different stents, (P 0.328).

Also there was no significant differences among different stents in their 1-2 year follow up; seven patients were reported in “follow-up MACCE”. Mortality

was 1.7% (1 biodegradable DES & 1 durable polymer DES). (P 0.654) Five patients needed TLR (2 biodegrabale DES & 3 durable polymer DES). (P 0.632)

Conclusions

Biodegradable polymer and durable polymer DES are associated with similar clinical outcomes at 2 years.

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