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SIROLIMUS: BIODEGRADABLE POLYMER DRUG ELUTING STENT VERSUS PERMANENT POLYMER DRUG ELUTING STENT.

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Objectives The debate has been ongoing ever since the use of second generation drug eluting stents in daily practice. Several large scale randomised trials have been conducted to evaluate the safety and efficacy of the novel DES. The Partner stent (coated with a permanent polymer) and the Excel stent (coated with a biodegradable polymer) are two different types of sirolimus eluting stents made in China. The mid-term and long-term outcomes have both been investigated and confirmed with promising perspectives. However the very long-term outcomes are yet to be known. The aim of this study is to investigate the very long term outcomes of these two types of DES in current practice.

Methods All consecutive patients undergoing PCI with implantation of Partner and/or Excel from January 2006 to December 2010 at the 2nd Affiliated Hospital of Dalian Medical University were included. Patients were classified according to stent types. Clinical and procedural risk factors were collected retrospectively. The frequency of major adverse cardiac events (MACE: a composite of death, myocardial infarction and target vessel revascularisation) and stent thrombosis during a 60 months follow up period were compared.

Results 447 patients were treated with Partner, 536 patients were treated with Excel and 161 patients received both DES. The MACE rates at 60 months follow up were 7.6% in Partner, 6.9% in Excel and 5.59% in the combined group (HR 0.866, 95% CI 0.302 to 2.84, $p=0.978$). The rates of cardiac death, myocardial infarction and target vessel revascularisation were 2.2%:1.7%:1.2% (HR 1.00, 95% CI 0.138 to 7.34, $p=0.542$), 2.23%:2.61%:3.1% (HR 1.51, 95% CI 0.248 to 9.27, $p=0.414$) and 2.68%:1.42%:0.62% (HR 0.327, 95% CI 0.033 to 3.19, $p=0.840$). The rates of stent thrombosis were 0.44%:1.1%:0.62% (HR 1.01, 95% CI 0.99 to 1.03, $p=0.842$).

Conclusions The results from this non-randomised, single centred retrospective study showed that both Partner and Excel of the sirolimus eluting DES had similar and lower incidence of MACE and confirms the safety of both DES in the very late outcomes. They can also be safely used in combination.