TCT-585

Drug Eluting Stent With Bioresorbable Polymer For Chronic Total Occlusion: 1 Year Outcomes From e-NOBORI Registry

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BACKGROUND Chronic total occlusion (CTO) recanalization is still a very challenging topic in the field of coronary intervention. Data on the performance of drug eluting stent (DES) with bioresorbable polymer in CTO are limited. The aim of our study is to assess 1-year clinical outcomes in CTO lesion management in a large worldwide registry.

METHODS In the large, prospective, single-arm, multi-center eNOBORI registry, 12139 patients were treated with Nobori DES. Among them 437 (3.6%) had at least one CTO lesion treated. An independent clinical events committee adjudicated all endpoint related adverse events. The primary endpoint was Target Lesion Failure (TLF) at 1 year.

RESULTS CTO patients were on average 60.7 years old and 82.4% are male, with a history of myocardial infarction, PTCA and cardiac surgery of 45.7%, 34.1% and 6.7%, respectively. 77.6% patients were hypertensive and 29.5% had diabetes. 68.7% patients were presented with stable angina while 13.3% had acute coronary syndrome. Lesions were located in the LAD (38.5%), RCA (37.6%), and LCX (22.6%). Multiple vessels were treated in 35.0% of patients (2.2±1.4 lesions treated per patient) with an average of 1.5±0.8 stents per lesion. Among all 751 treated lesions, 614 (81.8%) were complex B2/C type lesions, with 17.2% Ostial lesion, 49.1% moderate or severe calcified lesion, 62.6% CTO lesion, 2.8% had thrombus present and 7.3% were bifurcation. Pre- and post-dilatation were performed in 85.5% and 36.4% of lesions, respectively. Antegrade approach was chosen in the majority of procedures (88.2%), and a high frequency of single wire technique (79.0%) was used compared to parallel wire (13.4%) and seesaw wire (1.5%) techniques. Several other techniques were used for CTO treatment including CTO dedicated wires (38.4%), OTW balloon (8.5%), microcatheter (26.8%), rotational atherectomy (2.0%), cutting balloon (2.9%) and balloon dilatation only (4.7%). IVUS guidance was performed in 7.4% of patients. The average contrast volume and fluoro time were 269±124mL and 37.2±37.9 minutes, respectively. Procedural success rate was 98.2%. At 1 year follow up, 16 (3.7%) out of 437 patients had TLF. Three cardiac deaths (0.7%) and 7 target lesion revascularizations (1.6%) were reported at one year follow-up - together with 7 (1.6%) myocardial infarctions. A total of 80.8% of the patients were angina free at 1 year. Only 1 stent thrombosis (definite plus probable) was reported up to 1 year.

CONCLUSIONS Treatment of CTO with Nobori DES showed encouraging outcomes, although we cannot completely exclude the possibility that there might be underreporting of events, particularly periprocedural MIs might exist. One-year clinical outcomes suggest that this stent is a valuable treatment option for patients with CTO who are considered candidates for coronary interventions.

CATEGORIES CORONARY: Stents: Drug-Eluting

KEYWORDS Bioabsorbable polymer, Chronic total occlusion, Drug-eluting stent

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Comparison of second-generation with first-generation drug eluting stent for coronary chronic total occlusion intervention

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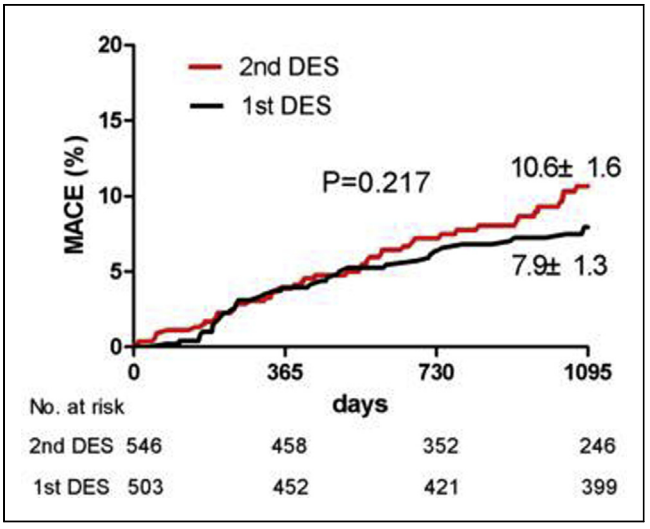
BACKGROUND Although second generation drug-eluting stents (DES) have improved angiographic and clinical outcomes over first-generation DESs, clinical efficacy and safety of second-generation DES for the percutaneous coronary intervention of chronic total occlusion (CTO) were not well defined.

METHODS We evaluated the 3-years clinical outcomes of 546 patients treated with second generation DES (everolimus- or zotarolimus-eluting stent) and 503 with first generation DES (sirolimus- or paclitaxel- eluting stent) for CTO in Asan Medical Center from 2004 to 2013. The primary endpoint was the incidence of major adverse cardiac events (MACE) at 3 years, defined as a composite of death, Q-wave myocardial infarction (MI), or target-vessel revascularization (TVR).

RESULTS The 3-year overall mortality of the second and first generation DES groups were not significantly different. (6.4±1.2% vs. 4.1±0.9%, P=0.12). After multivariable adjustment, there was no significant difference between patients who received second generation and first generation DES for the risk of MACE. (Hazard ratio [HR] 1.35, 95% confidence interval [CI] 0.85-2.12, P =0.20). The risk of death (HR 1.61, 95% CI 0.86-2.99, P =0.14), Q-wave MI (HR 1.41, 95% CI 0.40-4.95, P =0.59) and TVR (HR 0.86, 95% CI 0.41-1.76, p=0.67) were similar between the two groups. The incidence of definite/probable stent thrombosis was comparable (0.7% vs.1.0%, p=0.65) throughout the follow-up period.

Outcomes	Hazard ratio	95% confidence interval	*P* value
MACE	1.35	0.85-2.12	0.20
Death	1.61	0.86-2.99	0.14
Cardiac death	1.72	0.75-3.95	0.20
Myocardial infarction	1.41	0.40-4.95	0.59
Death and myocardial infarction	1.50	0.86-2.73	0.16
Target vessel revascularization	0.86	0.41-1.76	0.67
Any repeat revascularization	1.11	0.64-1.93	0.72

MACE = major adverse cardiovascular event.



CONCLUSIONS The 3-year clinical outcomes after CTO intervention using second generation DESs were not significantly different from those using first generation DESs.

CATEGORIES CORONARY: Stents: Drug-Eluting

KEYWORDS Chronic total occlusion, Clinical outcomes, Drug-eluting stent

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Bioabsorbable polymer-coated thin strut everolimus-eluting synergy stent for coronary revascularization in daily clinical practice: One-year results of the SWEET registry

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BACKGROUND Bioabsorbable polymer drug-eluting stents (DES) represent an indisputable improvement over first-generation DES