Conclusions: BiOSS LIM C is a feasible device with promising safety profile and mid-term clinical effectiveness.

P5527
Unique stent design with continuous cobalt wire can avoid protruding immediately after percutaneous coronary intervention compared to classical tubed stent

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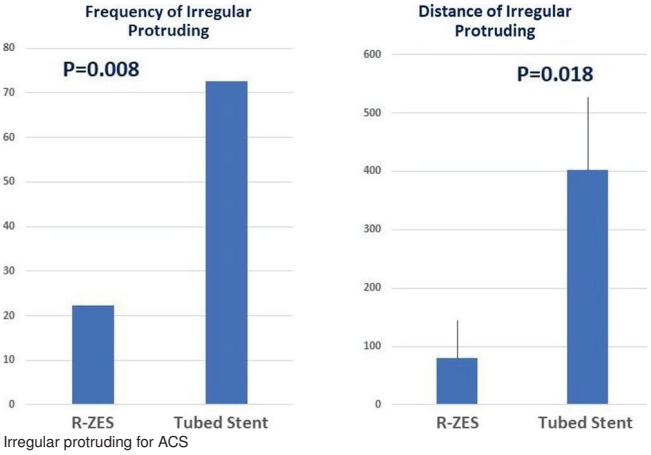
Background: Plaque protrusion estimated by optical coherence tomography (OCT) immediately after stent implantation, especially for irregular protrusion, has been reported as an independent predictor of 1-year target lesion revascularization. The Resolute zotarolimus-eluting stent (R-ZES) has a unique design with the continuous wire that is molded into a sinusoidal wave and wrapped in a helical pattern and laser-fused at certain points, which is called as the continuous sinusoid technology (CST). This allows significantly more struts to be aligned in the axial direction and the gap of each strut to be narrow than other classical tubed stent design, which result in the strong radial force, less vessel straightening and less plaque protruding.
Purpose: The aim of this study is to evaluate the difference of the protrusion estimated by OCT between R-ZES and other kinds of tubed stents.
Methods: Between February 2017 and January 2018,136 consecutive lesions of 134 patients who had postprocedure OCT imaging were enrolled. We examined the difference of the abnormal OCT finding, especially the frequency and amount of intra-stent protrusion such as smooth, disrupted and irregular protruding between R-ZES with CST and other tubed stents.
Results: Thirty lesions had R-ZES and 106 lesions had classical tubed stents (38 lesions had a durable polymer everolimus-eluting stent, 31 lesions had a biodegradable polymer biolimus-eluting stent and 37 lesions had a biodegradable polymer everolimus-eluting stent). There is no significant difference in the baseline characteristics including the frequency of acute coronary syndrome (ACS) and the main plaque component estimated by OCT. Maximum distance of irregular protruding was lower in R-ZES compared to tubed stents (128±45 vs 206±25, p=0.064). Focusing on the ACS lesions, R-ZES showed significantly less frequency (22.2% vs 72.7%, p=0.008) and lower distance of irregular protrusion (80±65 vs 403±126μm, p=0.018) compared to the other tubed stents (Figure). Other abnormal findings such as edge dissection, malapposition and under-expansion were similar between the two groups.



Irregular protruding for ACS

Conclusions: R-ZES with unique design with the continuous wire that is molded into a sinusoidal wave and wrapped in a helical pattern can avoid the intra-stent irregular protrusion, especially for ACS lesions.

P5528
Clinical impact of implanted stent length on clinical outcomes in patients treated with second-generation DES: a pooled analysis from RESET and NEXT trial

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Background: Little clinical data concerning the association between the implanted stent length and clinical outcomes in patients with 2nd-G drug-eluting stents.
Methods: REST and NEXT are prospective, multicenter, randomized "DES versus DES" trials; 3196 patients and 3235 patients were enrolled in each trial. Using the pooled individual patient-level data, the current study population consisted of 3678 patients who received single lesion treatment using new generation DES such as everolimus-eluting stent and biolimus-eluting stent. They were divided into 3 groups according to the implanted stent length by off-line quantitative coronary angiography assessed in a core angiographic laboratory [long-stenting (LS) group: ≥40mm, intermediate length (IL) group: 20–40mm, short-stenting (SS) group: ≤20mm].
Results: The cumulative 3-year incidence of target lesion revascularization was significantly higher in the LS group than in the IL and the SS groups (9.5% versus 5.7% versus 5.8%, log-rank P=0.004). Even after adjusting for the clinical, angiographic, and procedural characteristics, the excess risk of the LS group relative to the SS group for target lesion revascularization remained significant (hazard ratio [HR]: 1.58, 95% confidence interval [CI]: 1.09–2.29, P=0.02).
Conclusions: The implanted stent length longer than 40mm in the core laboratory analysis was associated with increased target lesion revascularization in patients treated with the second-generation drug-eluting stent.
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P5529
A five-year follow-up of randomised studies comparing outcomes between bioabsorbable-polymer and durable-polymer drug-eluting stents: systematic review and meta-analysis

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Background: Progress in the platforms for DES is aimed at improving safety and outcomes. Second-generation DESs have a biocompatible durable polymer (DP), in addition to bioabsorbable polymers (BP). The benefit of BP is to remove the polymer-triggered inflammatory stimulation associated with DP. There is evidence to suggest BP-DESs are non-inferior to the current generation DES at 12 months. The time course for polymer absorption varies between stents and may take from 4 to 15 months. Hence the potential benefits of BP-DES over DP-DES can only be tested over a longer period, to overcome the time taken for polymer absorption.
Purpose: The purpose of the meta-analysis was to compare the safety and efficacy outcomes of BP-DES over a long-term follow-up.
Methods: A thorough computer-based search using Ovid MEDLINE, EMBASE, Google Scholar, and PubMed databases was conducted up to 11 November 2017. We only included randomised studies (RCT) comparing clinical outcomes between the BP-DESs and DP-DESs. Only studies where data were available for a minimum of 5 years were included. Safety (Stent thrombosis (ST) and reinfarction) and efficacy (target lesion revascularization (TLR), cardiac mortality) were analysed.
Results: The literature search yielded 445 citations. After going through the abstracts and full-texts of the articles we included 5 RCTs where 5-year follow-up data was available. The information about the included studies, stent platform, drug and type of polymer is provided in Table 1.There was no difference in the ST (OR 0.71, 95% CI 0.47 –1.09, I2 = 31%, P=0.12), reinfarction (OR 1.01, 95% CI 0.85 –1.21, I2 = 0%, P=0.89), cardiac mortality (OR 1.00, 95% CI 0.81 –1.23, I2 = 0%, P=0.98), all cause mortality (OR 0.95, 95% CI 0.80 –1.14, I2 = 21%, P=0.61) and TLR (OR 0.80, 95% CI 0.58–1.11, I2 = 68%, P=0.18). Furthermore, there was no difference in the very late ST (OR 0.49, 95% CI 0.19 –1.30, I2 = 56%, P=0.15).
Conclusion(s): There is no difference in the safety and efficacy outcomes between the BP-DES and DP-DES at a follow up of 5-years. The lack of superiority of thick struts first generation BP-DES may not be applicable to the newer generation ultrathin BP-DES.

Abstract P5529 – Table 1. Stent characteristics

Author	Year	BP-DES name	Stent platform	Drug	Polymer	DP-DES name	Stent Platform	Drug	Polymer
Meridith et al.	2017	SYNERGY	PT-CR	Everolimus	PLGA	PROMUS ELEMENT	Pl-Cr	Everolimus	PVDF
Vlachojannis et al	2017	NOBORI	Stainless Steel	Biolimus A9	PLA	XIENCE PRIME/PROMUS	Co/Pl-Cr	Everolimus	PVDF
Chevalier et al	2015	NOBORI	Stainless Steel	Biolimus A9	PLA	TAXUS/ LIBERTE	Stainless Steel	Paclitaxel	SIBS
Serruys et al.	2013	BIOMATRIX FLEX	Stainless Steel	Biolimus A9	PLA	CYPHER SELECT	Stainless steel	Sirolimus	PEVA/PBMA
Kufner et al.	2014	YUKON CHOICE PC	Stainless Steel	Sirolimus	Resomer R202S	XIENCE/CYPHER	Co/Pl-Cr	Everolimus/Sirolimus	PEVA/PBMA/PVDF