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Comparison of Sirolimus and Paclitaxel-Eluting Stents for Complex Coronary Lesions: A n Intravascular Ultrasound Study

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Background : Recent Intravascular ultrasound (IVUS) studies of sirolimus-eluting stents (SES) and paclitaxel-eluting stents (PES) have shown a significant reduction of neointimal hyperplasia, based on simple coronary lesions. It has not been fully elucidated the efficacy of SES and PES for complex coronary lesions using IVUS. **Methods :** Sixty nine drug-eluting stents (40 with SES and 29 with PES) of 67 patients were enrolled in this study. Case selection was based on the availability of IVUS and quantitative coronary angiography (QCA) examinations at index procedure and at follow-up. Complex coronary lesion was defined as B2 or C lesion by pre-interventional QCA. Neointimal volume index (volume/length: NIVI) and percent NIV were calculated. Percent of neointima-free stent length was also evaluated. **Results :** Baseline patient demographics were similar between SES and PES. At follow-up (8.4±1.8 months), no statistical difference was observed in vessel, plaque and lumen volume index between the two groups. However, NIVI and % NIV were significantly lower in SES ($p<0.0001$). Percent of neointima-free stent length was significantly higher in SES ($p<0.0001$). Late loss was significantly lower in SES (0.13±0.33 mm vs. 0.72±0.47 mm; $p<0.0001$) (see table). **Conclusion :** Although the SES demonstrates a statistically higher suppression of neointimal hyperplasia (NIH) at follow-up, both stents are highly effective in inhibiting NIH in complex coronary lesions.

	SES (n=40)	PES (n=29)	P
QCA: Reference vessel diameter (mm)	3.25±0.40	3.17±0.40	0.40
Stent size (mm)	3.19±0.26	3.10±0.29	0.17
Stent length (mm)	28.7±10.7	26.9±9.4	0.41
IVUS: NIVI (mm3/mm)	0.29±0.43	0.93±0.80	<0.0001
IVUS: % NIV	4.1±5.4	13.4±11.4	<0.0001
IVUS: % NIH-free stent length	56.5±35.4	27.1±27.2	<0.0001
QCA: Late loss (mm)	0.13±0.33	0.39±0.37	0.003
QCA: In-stent restenosis (%)	2.5	10.3	0.30

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Lesion and procedural characteristics of chronic coronary total occlusion for 20 months: multicenter study

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Background : The objectives of this study were to evaluate angiographic and procedural outcomes among patients who underwent percutaneous coronary intervention (PCI) for chronic total occlusion. **Methods and Results :** The subjects were all patients demonstrated CTO during coronary angiogram at 6 hospitals of Catholic university medical college since January 2006 (Number of patients = 188, number of CTO lesion = 202). Lesion and procedural characteristics of chronic coronary total occlusion is demonstrated in table. There was no MACE during and after the procedure. **Conclusion :** We concluded that PCI of CTO is safe procedure although there was no control group. This study could provide clinical characteristics about CTO.

Gender (total =188)	Male (n=136, 72%)	Female (n=52, 28%)
Risk factor (total =188)	DM (n=61, 41%)	HTN (n=91, 61%)
Number of involved vessel	Single vessel disease	17%
	Two vessel disease	33%
	Three vessel disease	50%
CTO lesion (n= 202)	LAD	29.7 %
	LCX	21.8 %
	RCA	48 %
	Ramus	0.5 %