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Title	PJ-138 New Sesquiterpene Lactone Compared with Rapamycin Inhibits Migration Rather than Proliferation in Rat Vascular Smooth Muscle Cells(本文(Fulltext))
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ployment.Overall TLR of SES was significantly smaller than that of BMS (15% vs. 48%, p<0.0001)In lesion length of <20mm, there was no significant difference between two groups(18% vs. 42% p=0.0567), but TLRs of SG were significantly smaller than those of BMS, in the lesion length of >20mm(5% vs. 50%, p=0.0037), in all sizes of stent diameter(2.5mm: 2.8% vs.14% p0.0495, >3.0mm: 9.1% vs.51% p<0.001) and in bifurcation lesion(15% vs. 60%: p0.0071).Conclusion: SES reduced TLR in longer lesion than 20mm, small vessel disease and bifurcation lesion even in diabetic patients comparing BMS in Japan.

PJ-135

Comparison between Women and Men in Vessel Dimension, Plaque Burden and Restenosis Assessed by Intracoronary Ultrasound(IVUS) and Quantitative Coronary Angiography(QCA)

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Background: Although it is commonly believed that women have a worse mortality than men after coronary intervention, the precise mechanism is still unknown. Methods: We examined the influence of gender difference on vessel dimension, plaque burden and restenosis in 574 patients undergoing IVUS-guided coronary stenting. Vessel area (VA), lumen area (LA) and plaque area (PLA=VA minus LA) were determined by IVUS. Of the 574 patients, 118 patients were women. Restenosis was defined as >50% diameter stenosis (%DS) at follow-up.Conclusions: Although several baseline features were different between women and men, restenosis rate was similar. While angiographic vessel size was not different, IVUS revealed significantly greater vessel size associated with greater plaque burden. Greater plaque burden in men could result in similar restenosis rate to women after IVUS-guided coronary stenting.

Results:

	Women (n=118pts)	Men (n=456pts)	p
Age	65±9	60±10	<0.01
Hyrertention (%)	59	47	<0.01
Diabetes (%)	40	25	<0.01
Hyperlipidemia(%)	55	43	<0.01
Smoking history (%)	30	75	<0.01
QCA			
RD* pre (mm)	2.76±0.44	2.82±0.51	n.s.
%DS pre	65±10	65±11	n.s.
%DS post	21±8	20±8	n.s.
%DS follow-up	39±15	37±18	n.s.
Restenosis rate(%)	23	19	n.s.
IVUS			
VA pre(mm^2)	12.1±3.5	14.2±4.7	<0.01
PLA pre(mm^2)	10.3±3.6	12.3±4.5	<0.01

*RD = reference diameter

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Impact of Sirolimus-eluting Stent Implantation on Positive Remodeling Lesions in Patients with Coronary Artery Disease

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Objectives: Since recent studies demonstrated that positive remodeling and a pre-interventional plaque burden influence the development of intimal hyperplasia after bare-metal stent implantation, we investigated whether the plaque burden influences late lumen loss after sirolimus-eluting stent (SES) implantation in a de novo lesion with positive remodeling. Methods: We examined 24 consecutive positive remodeling lesions in patients with SES implantation under intravascular ultrasound (IVUS) guidance. Quantitative coronary angiography analysis was performed at baseline and 6-month follow-up, and IVUS assessment was performed before the intervention. A remodeling index (RI) was defined as the vessel area at the target lesion divided by that of the averaged reference segments. Results: The percentage of target-lesion revascularization was 4.2%, and in-segment late lumen loss was 0.04 ± 0.31mm. Plaque area (PA, 9.2 ± 3.0mm^2) and %PA (plaque area/vessel area, 75.7 ± 5.0%) at the lesion site did not correlate with late lumen loss, and the late lumen loss also did not correlate with RI. Moreover, volumetric IVUS assessment revealed that plaque volume (PV, 210.2 ± 111.8mm^3) and %PV (plaque volume/vessel volume, 67.1 ± 7.0%) showed no significant correlation with late lumen loss. Conclusions: SES is a useful strategy for addressing positive remodeling lesions, and the pre-interventional plaque burden had no effect on late lumen loss after SES implantation. Therefore, directional coronary atherectomy may not be required for positive remodeling before SES implantation.

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Comparing Sirolimus-eluting Stent Implantation and Cutting Balloon for Prevention of Recurrences in Patients with In-stent Restenosis

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Objective: To assess if drug-eluting stents are a more effective treatment for in-stent restenosis than balloon angioplasty using the cutting balloon device. Methods: We retrospectively analyzed 316 consecutive patients with angiographically significant in-stent restenosis. We divided the patients into 2 treatment groups: the cutting group (n=234), patients treated with the cutting balloon device for in-stent restenosis from March 1, 1998 to June 30, 2004, and the drug-eluting stent (DES) group (n=82), patients treated with DES for in-stent restenosis from July 1, 2004 to September 30, 2005. We compared the rate of recurrent restenosis and target lesion revascularization (TLR) between the two groups.Results: The initial success rate (residual diameter stenosis of<50% in the target lesion) was achieved 100% of the time in both groups. Reference vessel diameter was 2.71 ± 0.61mm in the cutting group and 2.57 ± 0.76mm in the DES group (p=0.10). Follow-up angiography was performed in 272 of 316 (86.1%) patients. Angiographic restenosis rate was 34.4% (74/215) in the cutting group and 3.5% (2/57) in the DES group (p<0.05). The TLR was 21.4% (46/215) in the cutting group and 3.5% (2/57) in the DES group (p<0.05). Conclusions: In patients with in-stent restenosis, a strategy based on sirolimus-eluting stents is superior to cutting balloon angioplasty for the prevention of recurrent restenosis.

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New Sesquiterpene Lactone Compared with Rapamycin Inhibits Migration Rather than Proliferation in Rat Vascular Smooth Muscle Cells

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Abnormal vascular smooth muscle cell (VSMC) proliferation and migration play major roles in the development of restenosis after percutaneous transluminal coronary angioplasty. Previously we reported anticancer effects of the water extract of the root of Lindera strychnifolia (LS), a herbal medicine. Recently we isolated new sesquiterpene lactone (compound 1) from the root of LS with antiproliferative activity against human small cell lung cancer cells. The present study was designed to characterize the effects of compound 1 on proliferation and migration in cultured rat VSMC. When the time course of cell proliferation was examined at a concentration of 1 μg/ml, compound 1 inhibited the proliferation. The degree of inhibition was similar to that of 100ng/ml of rapamycin, which is used in Cypher, drug-eluting stents (DES). Furthermore, compound 1 as well as rapamycin inhibited the cell cycle progression at G_0/G_1 phase. On the other hand, PDGF-induced migration in modified Boyden chamber method (PDGF-BB homodimer; 20 ng/ml) for 48h was markedly inhibited by pretreatment with compound 1 (3.3 ± 1.3 (% of the control)) but mildly by rapamycin (64.3 ± 6.7(% of the control)). Compound 1 did not show significant cytotoxicity until 48 h. These results suggest that compound 1 may be promising candidate for the new drug in the form of DES, which is different from rapamycin.

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