

Acute Coronary Syndromes

PREVALENCE AND DETERMINANTS OF INTRA-STENT THROMBUS AFTER EVEROLIMUS-ELUTING STENT IMPLANTATION ASSESSED BY ANGIOSCOPY AND OPTICAL COHERENCE TOMOGRAPHY

Poster Contributions

Poster Sessions, Expo North

Saturday, March 09, 2013, 3:45 p.m.-4:30 p.m.

Session Title: ACS Therapy: Key Observational Data
Abstract Category: 3. Acute Coronary Syndromes: Therapy
Presentation Number: 1168-186

Authors: *Masamichi Iwasaki, Toshiro Shinke, Hiromasa Otake, Masayuki Nakagawa, Hiroto Hariki, Tsuyoshi Osue, Takumi Inoue, Yu Taniguchi, Ryo Nishio, Hiroto Kinutani, Akihiko Konishi, Noritoshi Hiranuma, Masaru Kuroda, Ken-ichi Hirata, Kobe University Graduate School of Medicine, Kobe, Japan*

Background: Recent studies revealed that intra-stent thrombus is more common than the clinical incidence of stent thrombosis. Although several factors have been reported as risk factors for intra-stent thrombus formation after 1st generation drug-eluting stents, the prevalence and determinants of thrombus after everolimus-eluting stent (EES) implantation is still unclear.

Methods: 28 stable angina patients (34 lesions) underwent follow-up angiography and OCT at 10-month post EES implant. Lesions were divided into those with intra-stent thrombus or non-thrombus group according to angiographic and OCT analysis. Neointima coverage grade and yellow grade were evaluated by angiography. Neointimal thickness (NIT), frequency of uncovered / malapposed struts, roughness of neointima (neointima unevenness score: maximum NIT / average NIT), and stent eccentricity (average min/max stent diameter) were assessed by OCT.

Results: The prevalence of intra-stent thrombus was 14.7%. Thrombus group showed significantly higher incidence of uncovered and malapposed struts than non-thrombus group by OCT. Angiography showed lower neointima coverage grade for thrombus group than for non thrombus group (Table).

Conclusions: The prevalence of intra-stent thrombus was 14.7% 10 months after EES implantation. Insufficient strut coverage and incomplete strut apposition was associated with intra-stent thrombus after EES implantation.

Variable	Thrombus (+) n=5	Thrombus (-) n=29	P value
Angiography analysis			
Dominant neointimal grade	1.2±0.4	1.9±0.6	0.022
Maximum yellow grade	1.4±0.5	1.1±0.7	0.458
OCT analysis			
Average neointimal thickness (µm)	96±73	126±58	0.316
Average neointimal area (mm ²)	0.518±0.618	0.929±0.462	0.091
The frequency of uncovered struts (%)	6.2±8.2	0.7±0.9	0.010
The frequency of malapposed struts (%)	0.66±1.06	0.02±0.09	0.018
Neointima unevenness score	2.05±0.38	1.79±0.25	0.066
Average stent eccentricity index	0.88±0.04	0.90±0.03	0.197