IMPACT OF CYTOCHROME P450 2C19*2 POLYMORPHISM ON THE TARGET LESION OUTCOME AFTER DRUG-ELUTING STENT IMPLANTATION IN JAPANESE PATIENTS RECEIVING CLOPIDOGREL.

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Background: The cytochrome P450 (CYP) 2C19*2 polymorphism is associated with reduced responsiveness to clopidogrel and poor clinical outcome after stent implantation. Despite the high frequency of this polymorphism in Japanese patients, its contribution to lesion outcome after drug-eluting stent (DES) implantation is not clarified.

Methods: The present study included 120 Japanese patients who received clopidogrel and underwent follow-up optical coherence tomography (OCT) after DES implantation. The patients were divided into two groups: those with at least one CYP2C19*2 allele (*2 carriers) and non-carriers. The incidence of intra-stent thrombus detected by OCT and target lesion revascularization (TLR) were compared between two groups. Also we compared the OCT texture pattern of neointima at TLR lesion between two groups.

Results: Forty-five percent of the patients were *2 carriers. There are no remarkable differences in the baseline characteristics. The intra-stent thrombus was more frequently detected in *2 carriers than in non-carriers (54.0% vs 17.0%, p<0.0001). TLR rate was higher in *2 carriers than in non-carriers (26.0% vs 9.1%, p=0.0249). The OCT pattern of neointima at TLR lesion was not different between two groups.

Conclusions: Our study found that the CYP2C19*2 polymorphism is associated with higher frequency of intra-stent thrombus and TLR among Japanese patients receiving clopidogrel.