THE IMPACT OF HINGE MOTION ON IN-STENT RESTENOSIS AFTER SIROLIMUS-ELUTING STENT IMPLANTATION

i2 Poster Contributions
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Background: A tortuous lesion with hinge motion was reported one of the risk factors of in-stent restenosis (ISR) after BMS implantation. Sirolimus-eluting stents (SESs) have dramatically reduced the rate of ISR, however, this problem was not completely resolved. Especially, stent platform of SES is made of closed cell design stainless steel stent, which has less conformability and flexibility. The aim of this study was to investigate the relationship between a tortuous lesion with hinge motion and ISR after SES implantation.

Methods: We divided 399 consecutive patients (537 lesions) after SES implantation in whom 6-9 months' follow-up CAG was performed into two groups with or without ISR. Δangle was defined as the difference of the angle between diastole and systole in the target lesion before procedure.

Results: The incidence of ISR was 8.2% (44 of 537 lesions). Maximal angle and Δangle were larger in ISR group (47±22degree vs 37±21degree, p=0.004 and 20±13degree vs 13±10degree, p=0.0001, respectively). Independent predictors of ISR were Δangle, hemodialysis, aorta ostium stenting, and diabetes mellitus. Optimal cut-off values of Δangle that best predicted ISR was 15 degree, the sensitivity and specificity were 66% and 68%, respectively. Hinge motion associated ISR (Δangle>15degree) occurred in 26 lesions; stent fracture in 9, stent recoil in 6, and edge injury in 11.

Conclusions: Δangle was one of the predictors of ISR after SES implantation. We should take care of SES use for hinge motion lesions.