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Acute and Stable Ischemic Heart Disease

PROGNOSTIC RELEVANCE OF PLASMA D-DIMER AND FIBRINOGEN LEVELS ON ADVERSE CARDIOVASCULAR EVENTS AFTER PERCUTANEOUS CORONARY INTERVENTION IN PATIENTS WITH CORONARY ARTERY DISEASE

Poster Contributions
Poster Hall, Hall F
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Session Title: Acute and Stable Ischemic Heart Disease: Clinical 5
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Background: We evaluate the clinical implication of hypercoagulability surrogates, D-dimer (fibrinolysis) and fibrinogen (thrombosis) levels, in PCI-treated patients.

Methods: Baseline D-dimer and fibrinogen levels were measured (n=2,344). We stratified patients into four groups according to D-dimer and fibrinogen levels (cutoffs of D-dimer, 0.50 μg/mL ; fibrinogen, 350 mg/dL): (1) Low_{Fib}-$Low_{D\text{-}dimer}$ (n=1,007, 43.0%); (2) Low_{Fib}-$High_{D\text{-}dimer}$ (n=568, 24.2%); (3) $High_{Fib}$-$Low_{D\text{-}dimer}$ (n=271, 11.6%); and (4) $High_{Fib}$-$High_{D\text{-}dimer}$ (n=498, 21.2%). MACE was defined as a composites of cardiac death, non-fatal myocardial infarction and revascularization.

Results: With a median follow-up of 18.9 (IQR: 10.0 - 31.7) months, the incidence of MACE was 11.0%. The incidence of MACE significantly differed across the groups (log-rank test, p <0.001) (Figure). Compared with the Low_{Fib}-$Low_{D\text{-}dimer}$ group, the $High_{Fib}$-$High_{D\text{-}dimer}$ group only showed the increased risk of MACE (HR, 2.06; 95% CI, 1.34 - 3.17; p = 0.001). In multivariate analysis, a high level of hs-CRP (>2.0mg/dL) was a major determinant to increase the level of fibrinogen and D-dimer (HR 5.95, 95% CI 4.32 - 8.13, p <0.001)

Conclusion: This is the first study that combination of D-dimer and fibrinogen levels can predict better the risk of adverse CV events in large-scale East Asian patients. This analysis has suggested the close relationship of inflammation and thrombosis-fibrinolysis hemostasis process in patients with significant CAD.