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아스피린과 클로피도그렐을 복용중인 정상 신기능 환자와 말기신부전 환자에서 Platelet function analyzer-100 폐색시간의 비교

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Comparison of In-Vitro Closure Time between Normal Renal Function and End Stage Renal Disease Treated with Aspirin and Clopidogrel

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Uremic bleeding is well recognized problem and is an important cause of mortality and morbidity. Several tests have been used to detect and measure hemostasis but none appear to be ideal. Recently, a novel in vitro closure time test (PFA-100, platelet function analyzer) has been used and some reports showed the usefulness of this test in dialysis patients.

In renal failure patients, the safety of antiplatelet agent, especially dual antiplatelet therapy is doubtful and there was few data about platelet function in dialysis patients prescribed by anti platelet agents. The aim of this study is to investigate the platelet function used by PFA-100 in dialysis patients which had dual antiplatelet agents.

This study included three groups. First group (Group A, n=19) comprises patients with chronic uremia on dialysis for more than 1 years, and who has prescribed by aspirin and clopidogrel for more than 6 months. Second group (Group B, n=30) comprises patients with chronic uremia on dialysis for more than 1 years without antiplatelet agents. Third group (Group 3, n=30) comprises patients who have normal renal function with dual antiplatelet agents for 6 months.

In vitro closure time was measured using the PFA-100 device according to the manufacturer's instructions. Two cartridges were used, each holding a membrane with a central aperture and coated with either epinephrine (CEPI) or adenosine diphosphate (CADP).

Group A and B are patients with end stage renal disease during dialysis. BUN creatinine, phosphate, intact PTH, Hemoglobin, hematocrit phosphate, and intact PTH are significantly different. HemoglobIn and Hematocrit in group A and B is significantly lower than those in Group C. There was no difference of hematocrit between Group A and B. CEPI, CADP, and fibronogen are significantly different among three groups. CEPI is higher in Group A, C than in Group B. CADP-CT is higher in Group A than in Group C. In subgroup analysis, there was no correlation of hematocrit with CEPI or CADP in each three groups. CEPI was well correlated with CADP.

Our study showed that CEPI in ESRD with dual antiplatelet agents was similar with that in normal renal function with these. Our study suggests that the increase of both CEPI and CADP might be prominent in Group A. This finding suggests that dual antiplatelet agents might be more risk to the bleeding tendency in ESRD than normal renal function.

Key Words: PFA-100 폐색시간, 아스피린, 클로피도그렐
PFA-100 closure time, Aspirin, Clopidogrel