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만성 투석 환자의 혈중 베타2 마이크로글로불린 농도와 사망률과의 관계

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Higher Serum β2-microglobulin Levels Predict better Survival in Chronic Hemodialysis Patients; A Reverse Epidemiology

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Background/Aims : β2-Microglobulin (β2-M) has been considered to be a surrogate marker of putative middle-moledule uremic toxins, which are difficult to dialyze by use of low-flux membrane. This retrospective study was performed to evaluate the relationship between serum β2-M and survival of hemodialysis patients and association of β2-M levels with known mortality predictor biomarkers.

Methods : Laboratory parameters including β2-M were reviewed in 289 prevalent hemodialysis patients. The patients were divided into two groups according to their serum β2-M levels by using the area under the receiver operating command curve: lower β2-M group with serum β2-M <26.93 mg/L and higher β2-M group with that >26.93 mg/L.

Results : During the follow-up period of 5 years, there were 95 all-cause deaths. In the comparisons for surviving and nonsurviving hemodialysis patients, serum β2-M was higher in survivors (36.8±12.3 vs. 32.6±13.2, p=0.009). Kaplan-Meier analysis revealed that all-cause mortality in the lower β2-M group was significantly higher compared to that in the higher β2-M group (p=0.0001). In the multivariate Cox regression analyses, elevated β2-M levels had significantly lower mortality rate for hemodialysis patients (relative risk, 0.608; 95% confidence interval, 0.37 to 0.99; p=0.046). Elevated β2-M level was significantly associated with elevated levels of albumin (3.38±0.38 vs 3.16±0.56, p=0.005), high BMI level (22.82±3.13 vs 21.22±2.76, p=0.001). and elevated nPNA level (1.18±0.21 vs 1.01±0.20, p=0.001).

Conclusion : These results demonstrate that the lower serum β2-M level is a significant predictor of mortaliy in hemodialysis patients and in might have reverse epidemiology as a nutritional marker.

Key Words : 혈액투석, 베타2 마이크로글로불린, 사망률
Hemodialysis, β 2-microglobulin, Mortality