

투석후 저혈압과 혈관 경직도 및 석회화와의 관계

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Associations of Post-dialysis Hypotension with Vascular Calcification and Arterial Stiffness in Hemodialysis Patients

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Background : Cardiovascular disease is one of the leading causes of mortality and morbidity in hemodialysis patients. Arterial stiffness is known to be associated with vascular calcification in HD patients. Post-HD hypotension is a risk factor for cardiovascular mortality. We evaluated the relation between arterial stiffness and post-HD hypotension in maintained HD patients.

Methods : 72 HD patients without acute coronary syndrome, acute infection or acute inflammation were enrolled in this study. They had been under maintenance HD for more than 3 months. We checked the biochemical data, including the troponin T, CRP and OPG (osteoprotegerin) levels before their dialysis session and the baPWV (brachio-ankle pulse wave velocity) after the session. We defined post-HD hypotension as a drop of BP of more than 5% of the MAP that occurred more than 3 times for 2 weeks (6 sessions).

Results : There were 34 and 38 patients with and without post-HD hypotension, respectively. The hypotension group had higher CRP, troponin T and OPG levels ($p < 0.05$, 0.01 and 0.01 , respectively). The PWV was higher in the hypotension group ($p < 0.001$). The CRP and troponin T levels were positively correlated with the PWV ($r = 0.26$, $p < 0.05$; $r = 0.31$, $p < 0.01$, respectively). The OPG level was positively correlated with the PWV ($r = 0.44$, $p < 0.001$). Drops in the patients' MAP were correlated with the PWV ($r = 0.30$, $p < 0.05$). On multivariate analysis, PWV was the independent factor related to the drops in the MAP of the patients ($r = 0.311$, $p = 0.021$).

Conclusion : Arterial stiffness may contribute to the post-hemodialysis hypotension, which is associated with vascular calcification.