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혈액 투석 환자에서 고관절 골절의 위험 인자

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Risk Factors for Hip Fracture in Hemodialysis Patients

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Purpose : The incidence and mortality of hip fractures were several times greater in end-stage renal disease patients on maintenance hemodialysis (HD) than the general population. We investigated several clinical and laboratory parameters to reveal the risk factors associated with hip fracture in Korean HD population.

Methods : Thirty HD patients (M:F=17:13, age 70±10 years) had a hip fracture from June, 1999 to September, 2006. Forty-six HD patients (M:F=20:26, age 61±12 years) of control group had no past history of hip fracture and kidney transplantation. We reviewed the medical records retrospectively and compared the clinical characteristics and laboratory parameters between two groups.

Results : The HD patients with hip fractures were older (p=0.001) and had shorter duration of hemodialysis, compared to patients of control group (50±61 vs. 87±34 (months), p=0.003). The prevalence of cardiovascular (43% vs. 11%, p=0.002) and cerebrovascular (27% vs 7%, p=0.02) comorbidities were significantly higher in HD patients with hip fracture. The serum C-reactive protein (0.8±0.7 vs. 0.3 ±0.3 (mg/dL), p=0.001) and calcium (9.1±1.1 vs. 8.7±0.4 (mg/dL), p=0.03) were significantly higher and albumin (3.2±0.4 vs. 3.6±0.2 (g/dL), p<0.001), phosphorus (3.9±1.4 vs. 4.6±1.0 (mg/dL), p=0.01), uric acid (5.7±2.4 vs. 7.7±0.9 (mg/dL), p<0.001), serum creatinine (6.4±2.5 vs. 10.9±2.2 (mg/dL), p<0.001) were significantly lower in HD patients with hip fracture. The multivariate logistic regression analysis showed that the independent risk factor for hip fracture in HD patients was the presence of cardiovascular disease (Odds Ratio 1185, 95% Confidence Interval 1.3-1020252, p=0.02).

Conclusions : The independent risk factor for hip fracture in Korean HD patients was cardiovascular comorbidity. However, this should be confirmed by large-scale longitudinal prospective study in the future.