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빈혈을 동반한 혈액 투석 환자에서 ascobic acid 정맥 투여의 효과

조선대학교 의과대학 부속 병원 신장내과,

류봉관 · 백종훈 · 이완수 · 안치용 · 김현리 · 정종훈

The Effect of Intravenous Ascorbic Acid in Hemodialysis Patients with Anemia

Bong Kwan Ryu, Jong Hun Baek, Wan Soo Lee, Chi Yong Ahn, Hyun Lee Kim, Jong Hoon Chung

Chosun University Department of Internal Medicine College of Medicine Division of Nephrology

Introduction : Hemodialysis patients with functional iron deficiency often develop resistance to recombinant human erythropoietin (EPO). Recent studies suggest that intravenous ascorbic acid administration could override EPO resistance in hemodialysis patients. This study was performed to investigate the effect of intravenous ascorbic acid in hemodialysis with EPO-hyporesponsive anemia.

Methods : The study subjects were 35 (16 men, 19 women) aged 30-76. The patients were received 500 mg of intravenous Vitamin C with each dialysis session. The effects of Vitamin C on EPO were assessed during 4 months.

Results : The mean age was 54.6±12.3 years, and the mean duration of hemodialysis was 5.7±4.2 years. The most common cause of renal disease was diabetic nephropathy. At 4 months, Hb levels significantly increased from 9.4 to 10.6 g/dL. Hct (27.5 to 31.5%), RBC mass (3.0 to 3.3×10^3 ug/L) and TSAT (30.9 to 37.4 %) significantly increased. EPO dose (136.5 to 75.0 IU/kg/week) significantly decreased. There are no changes in TIBC, ferritin, calcium, phosphorus, intact parathyroid hormone levels, Kt/V, CRP, aluminum and Vitamin B12.

Conclusion : Intravenous ascorbic acid can be effective adjuvant therapy for the EPO-resistant anemia in hemodialysis patients.

Key Words : 혈액 투석, 빈혈, ascobic acid
Hemodialysis, Anemia, Ascobic acid