

만성 혈액투석 환자에서 혈장 ghrelin과 영양지표 및 사망율

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Plasma Ghrelin Relates with Nutritional Markers and Survival in Maintenance Hemodialysis Patients

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Purpose : Ghrelin stimulates food intake, growth hormone secretion and exerts potential effects on cardiovascular function. Plasma ghrelins are increased in patients undergoing hemodialysis (HD), but the role of ghrelin is not well characterized. The present study examined the correlations between the plasma ghrelin levels and nutritional markers and we had observed the survival of patients for 3 years.

Methods : Sixty-four patients (M:F=39:25, age=63 \pm 12 years) on maintenance HD were included. Baseline plasma ghrelin, leptin, malnutrition inflammation score (MIS), nPNA, hs-CRP and other nutrition markers were measured. These patients had been observed prospectively from 2006 to 2009.

Results : Plasma ghrelin levels were correlated with age ($r=-0.57$, $p=0.00$), serum albumin ($r=0.29$, $p=0.02$), and MIS ($r=-0.34$, $p=0.01$). However, plasma ghrelin levels had no correlation with plasma leptin ($r=-0.20$, $p=0.12$) and hs-CRP ($r=-0.21$, $p=0.09$). After 3 years of follow-up, 16 patients (25%) had died. The patients were divided into 3 groups according to tertile of ghrelin level: 1st tertile (N=21, 432-914 pg/mL), 2nd tertile (N=22, 915-1,517 pg/mL), 3rd tertile (N=21, 1,518-2,562 pg/mL). The lower ghrelin group showed low survival than higher group in the Kaplan-Meier survival curve. The relative risk (RR) of death in 1st tertile, 2nd tertile compared with 3rd tertile group were RR=4.19 [95% CI:1.16-15.26, P=0.03], RR=1.24 [95% CI:0.28-5.52, p=0.87], respectively.

Conclusion : In this study, plasma ghrelin level was associated with age and nutritional markers. In prospective study, survival was decreased in low ghrelin level group. It showed that ghrelin may have an important role in nutrition and survival in patients with maintenance HD.

Key Words : Ghrelin
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