복막투석 첫 해동안 복막 수송률에 중요한 영향을 끼치는 싸이토카인 IL-6에 관한 연구

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Intraperitoneal IL-6 may be the Most Important Cytokine in Determining Peritoneal Transport Rate during the First Year

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Background : To investigate the relationship between the peritoneal transport rate and the intraperitoneal cytokines or the markers of systemic inflammation during the first year of PD.

Methods : One hundred- twenty incident PD patients (49 males, mean age 51.7±13.4 years, DM 42.5%) were included from two centers, prospectively. The mass transfer area coefficient of creatinine (MTACcr) was evaluated at 1 month, 6 month, 12 month after starting PD. Serum hs- CRP and IL- 6, TGF- β , βig- h3, VEGF levels in overnight dialysate effluent were measured at the same time. The patients were divided into three groups according to ΔMTACcr (the subtraction of MTACcr from 12 month to 1 month); less than - 1SD (group I, n=13), between - 1SD and +1SD (group II, n=90), more than +1SD (group III, n=17).

Results : All cytokines in dialysate effluent increased over time, but neither MTACcr nor CRP were changed. MTACcr correlated with ln IL- 6, ln TGF- β at 1 month ($r=0.306$, $p<0.05$; $r=0.294$, $p<0.05$, respectively), and with ln IL- 6, ln TGF- β , ln VEGF at 12 month ($r=0.487$, $p<0.001$; $r=0.330$, $p<0.001$; $r=0.334$, $p<0.001$, respectively). In contrast, there was no correlation between MTACcr and serum CRP level at 1, 6, and 12 month. The ΔMTACcr was only associated with ΔIL- 6 (the subtraction of IL- 6 level from 12month to 1month) among the cytokines ($r=0.350$, $p<0.001$). There was significant difference among three groups in the value of ΔIL- 6 [group I, - 0.79 (- 61.17- 124.45) pg/mL; group II, 12.84 (- 102.07- 288.60) pg/mL; group III, 37.36 (- 20.77- 381.80) pg/mL, $p<0.05$], but not in ΔTGF- β , Δβig- h3 and ΔVEGF. The ΔIL- 6 positively correlated with ΔTGF- β and Δβig- h3 ($r=0.211$, $p<0.05$; $r=0.246$, $p<0.05$, respectively) but not with ΔVEGF.

Conclusion : The change in peritoneal transport rate during the first year of PD is related to effluent IL- 6, which is correlated with pro- fibrotic cytokines in peritoneal cavity. However, it was not associated with a state of systemic inflammation during this period.

Key Words : C반응성 단백질, 인터루킨 6, 복막 수송률
CRP, IL- 6, Peritoneal transport rate