

3년 동안 무작위 복막투석 환자에서 복막염이 복막상피세포의 Ex-Vivo 표현형에 미치는 영향

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Impact of Peritonitis on Ex-Vivo Phenotype of Human Peritoneal Mesothelial Cells (HPMCs) during 3 Years in Incident CAPD Patients

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Objectives: This study was designed to verify the impact of peritonitis on ex vivo phenotype of HPMC and the associating factors with higher epithelial to mesenchymal transition (EMT) in CAPD patients.

Methods: Among 301 incident CAPD patients during Apr. 2001 to Dec. 2006, 99 incident CAPD patients completed 36 months protocol, prospectively. Effluent cell cultures, dialysate(D)-CA125, adequacy, 4.25% modified PET and clinical indices were measured at 1st, 6th, 12th, 18th, 24th, 30th and 36th months. One solution among 4 PD solutions (2 low GDP: Physioneal and Balance, 2 high GDP: Dianeal and stay safe) was used through the 36 months and patients who changed PD solution were excluded. D-CA125 and HPMCs from overnight effluent were completely isolated and cultured on the T25 flask at 1st and every 6 months. Cell score was blindly measured by the same person at near confluence (score 1: cobble-stone shaped HPMCs, score 2: mixed, score 3: fibroblastoid cell). Incidence of peritonitis and levels of D-CA125 during 36 months were compared between Score 1 (n=32) and score 3 (n=22) groups at the 36 months. Pearson chi square analysis and independent T test were used to analyze the data.

Results: There were no significant differences of D/P 4Cr, D/P 1hr Na, ultrafiltration volume during PET, sex, age, diabetes between cell score 1 and score 3 groups. Cell score 1 (less EMT) group at the 36th month showed significantly higher D-CA125 level than cell score 3 group (32.16 29.77 vs. 15.65 9.51, 37.62 31.91 vs. 13.74 6.02, 36.48 24.84 vs. 13.87 8.29, 35.19 17.65 vs. 11.98 6.84, 36.00 25.69 vs. 14.30 11.21 and 34.02 26.57 vs. 11.89 7.43, p=0.009, p=0.000, p=0.029, p=0.000, p=0.029 and p=0.000 at 6th, 12th, 18th, 24th, 30th and 36th months). Incidence of peritonitis was not significantly different between cell score 1 and score 3 groups during 36 months (0.32 0.41/year vs. 0.38 0.45/year, p=n.s.).

In conclusion, Dialysate CA125 showed significant association with ex vivo phenotype of HPMC but usual incidence of peritonitis didn't show significant impact on EMT during 3 years.

Key Words: 상피중간엽세포전이, 복막투석, 복막염
EMT, Peritoneal dialysis, Peritonitis