

말기신부전 환자에서 투석이 염증 상태에 미치는 영향

고려대학교 의과대학 내과학교실

이재원 · 김혜원 · 최혜민 · 부창수 · 고강지 · 조상경 · 조원용 · 김형규

Effect of Dialysis on Inflammatory State in Patients with End Stage Renal Disease

Jae-Won Lee, Hye-Won Kim, Hye-Min Choi, Chang-Su Boo, Gang-Jee Ko
Sang-Kyung Jo, Won-Yong Cho, Hyung-Kyu Kim

Korea University Department of Internal Medicine

Purpose : Patients with end-stage renal disease (ESRD) are known to be in chronic inflammatory state, and that contributes to long-term morbidity and mortality related with malnutrition and atherosclerosis. Dialysis might be suggested to have some beneficial role in correction of such inflammatory conditions, further in improvement of morbidity and mortality. We investigated whether start of dialysis leads to alteration on inflammatory conditions in ESRD patients.

Methods : 57 ESRD patients newly treated with dialysis at Korea university Anam hospital were enrolled. Pro-inflammatory cytokine, tumor necrosis factor- α (TNF- α), and antiinflammatory cytokines, particularly interleukin-10 (IL-10) and adiponectin were measured before and 3 months after dialysis start. Serum levels of cytokines treated with lipopolysaccharide (LPS) were also measured to evaluate the reaction of inflammatory cascade by external stimulation. Other inflammatory and nutritional markers were also examined.

Results : 31 patients were treated with hemodialysis (HD), and the others were treated with peritoneal dialysis (PD). TNF- α level was decreased (201.0 ± 335.4 vs 11.5 ± 26.9 pg/mL, $p < 0.01$), and adiponectin level was increased (13.7 ± 5.9 vs 20.1 ± 6.0 μ g/mL, $p < 0.01$) after dialysis treatment. LPS induced TNF- α and IL-10 level were increased together after dialysis. These changes were accompanied with decrease of CRP and increase of hemoglobin, serum albumin and cholesterol. No significant differences were observed between HD and PD group.

Conclusions : Our study demonstrates that correction of uremic milieu in ESRD patients with dialysis results in decrease of inflammation and restoration of proper inflammatory cascades. And these were accompanied with improvement of nutritional status. Thus, early start of dialysis treatment has advantages in inflammatory state in patient with ESRD and might be suggested to expect improving morbidity and mortality through improving inflammatory state and nutritional status.