

## 투석전 만성신부전 환자에서 적혈구조혈인자 치료가 신기능에 미치는 영향

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### Renal Outcome of CKD Patients with Predialysis Erythropoietin Therapy

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Erythropoietin (EPO) therapy in CKD patients have been in controversy on the effect of preservation of renal function, although retrospective studies suggested that predialysis EPO therapy may delay the initiation of dialysis. To evaluate the long-term efficacy and renal outcome of recombinant human EPO, we performed a multi-center prospective randomized controlled trial. Predialysis CKD patients with a serum creatinine (sCr) concentration ranging from 1.5 to 4 mg/dL and a hemoglobin (Hgb) less than 10.0 g/dL were randomly assigned into EPO treated (group A, N=60) and control (group B, N=43) groups. EPO was injected subcutaneously with target Hgb 11.0 g/dL in group A and placebo was injected in group B during 3 months of stabilization, followed by 21 months of maintenance. Blood pressure (BP) was controlled with combination therapy including ARB/ACEi and calcium channel blocker. Primary end-point was composite of creatinine doubling, initiation of dialysis and death. Mean follow-up duration was 45.6±31.0 weeks for group A and 46.5±37.9 weeks for group B. There was no statistically significant difference in age, gender ratio, prevalence of DM, and use of ARB/ACEi between groups. Initial mean BP and sCr were not significantly different between two groups. At the end of study there was no difference on mean BP, but sCr is significantly higher in group A (5.5±2.4 vs. 4.1±1.6, p=0.012). Patients with sCr doubling was higher in group A (23.2% vs. 3.5%, p= 0.028). On Kaplan Meier survival analysis, group A reached primary end point much earlier (p=0.009). These data suggest that correction of anemia with EPO in CKD patients may accelerate renal deterioration. Further studies should be followed to evaluate the long term clinical outcome after dialysis.