P205

일측 폐쇄요로 모델에서 RAS의 억제가 TLR2, TLR4을 감소시킨다

충남대학교병원

최대은 · 정진영 · 장원익 · 주현준 · 나기량 · 이강욱 · 신영태

Inhibition of Renin Angiotensin System Decreases TLR2 and TLR4 in Obstructed Kidney

Dae Eun Choi, Jin Young Jeong, Won Ik Jang, Hyun Jun Ju, Ki Ryang Na, Kang Wook Lee, Young Tai Shin

Chungnam National University Hospital

Introduction: Many studies show TLR signaling and renin angiotensin system (RAS) respectively are important role inflammation and fibrosis of obstructed kidney. However, there are little study of relationship between RAS and TLR signaling in obstructed kidney. We evaluated that inhibition of RAS may modulate TLR2 and TRL4 and its ligands and renal inflammation and fibrosis.

Methods: We use unilateral ureteral obstruction (UUO) model and female C57Bl/6 mice weigh 25 28g which were divided into 4 groups; sham group, enalapril treated sham group, UUO group, and enalapril treated UUO group. Enalapril, angiotensin converting enzyme inhibitor was administrated via drinking water (100 mg/L) 1 day before sham and UUO operation and continued until harvest of kidneys 5 days after operation. We performed realtime RT PCR and immunohistochemistry for molecular study and H&E stain and Masson trichrome (MT) stain for histological examination.

Results: The levels of mRNA expression of TLR2, TLR4, Myd88, renin, renin receptor in UUO kidneys were significantly increased compared to sham operated group (all, $p<0.05$). The mRNA levels of TLR2, TLR4 and Myd88 of enalapril treated UUO group were significantly lower than those of control UUO group (all, $p<0.05$). The renal mRNA expressions of TNF−, MCP−1, TGF−, and −SMA in enalapril treated UUO group ($p<0.05$) were significantly lower than those of control UUO group. Enalapril also significantly reduced number of CD68 positive cell, MT stained area, and immunostained area of TGF− and −SMA in UUO kidneys ($p<0.05$).

Conclusins: Enalapril attenuated renal inflammation and fibrosis in obstructed kidney via both inhibition of RAS and reducingTLR 2 and TLR4.

Key Words: 레닌 안지오텐신 신장
Renin angiotensin, TLR