

만성 사이클로스포린 독성모델에서 크레메진의 효과

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The Effect of Kremezin on the Chronic Cyclosporine Nephropathy

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Background: AST- 120 (Kremezin, KMZ) is an oral adsorbent that attenuates the progression of renal failure by reducing the uremic toxins and oxidative stress. Here we evaluated the effect of KMR on the chronic cyclosporine- induced nephropathy.

Materials and Methods : Sprague- Dawley rats were used. Animals were divided into 4 groups. Control rats were treated with vehicle (VH group, olive oil 1 mL/kg per day) for 28 days and chronic CsA nephropathy was induced in by administering CsA (CsA group, 15mg/kg per day). Two doses of KMZ (5% and 10%) was administered to rats. The effect of KMZ on CsA- induced renal injury was evaluated with renal function, histopathology, infiltration of macrophage and measuring oxidative stress with urinary excretion and intrarenal expression of 8- OHdG.

Results : Serum creatinine levels in the CsA group were higher than VH group (p<0.05), but concomitant treatment of KMZ significantly decreased serum creatinine levels compared with the CsA group. Interstitial fibrosis score and macrophage infiltration were increased in the CsA group but KMZ treatment decreased both parameters compared to the CsA group. The urinary 8- OHdG concentrations and intrarenal 8- OHDG expression were significantly increased in the CsA group, but KMZ treatment decreased both parameters.

Conclusions : These results suggest that KMZ plays a protective effect on the chronic CsA toxicity, and this effect may be mediated by decreasing oxidative stress caused by CsA.

Key Words : 크레메진, 사이클로스포린, 산화 스트레스

Kremezin, Cyclosporine, Oxidative stress