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일측성 폐색성 신증에서 콜키친이 신장 자멸사 억제 효과

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Colchicine Ameliorates Renal Apoptosis in Unilateral Obstructive Uropathy

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Introduction and Aims: In the kidney with unilateral ureteral obstruction (UUO), alteration of cytoskeleton can induce apoptosis. Colchicine, which inhibits microtubule polymerization, may reduce tissue injury. However, the effect of colchine on renal apoptosis in UUO has not been explored.
Methods: UUO was induced in C57BL/6 mice and colchicine (60 μg/kg, intraperitoneally, everyday) or vehicle was administered for 7 days.
Results: UUO mice showed increased alpha-tubulin and renal apoptosis. Colchine inhibited the expression of alpha-tubulin and decreased renal apoptosis 7 days after UUO. In colchicines treated UUO mice, the expression of phopho-glycogen synthase kinase-3β and phospho-p38-mitogen-activated protein kinase was decreased, while the expression of Akt and B-cell lymphoma-extra large was increased. Caspase-9 expression was also decreased. Interstitial fibrosis scores on Masson's trichrome stain were not different between vehicle and colchicines treated UUO mice. Expression of alpha-smooth muscle actin, vimentin, collagen type 4 and fibronectin was not different between the two groups.
Conclusions: These data suggest that colchicine may have anti-apoptotic effect but lack of anti-fibrotic effect on obstructive kidney models.

Key Words: 콜키친, 자멸사, 섬유화
Colchicine, Apoptosis, Fibrosis