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The alkalizer citrate reduces serum uric Acid levels and improves renal function in hyperuricemic patients treated with the xanthine oxidase inhibitor allopurinol.

Saito J, Matsuzawa Y, Ito H, Omura M, Ito Y, Yoshimura K, Yajima Y, Kino T, Nishikawa T.

OBJECTIVE:

Hyperuricemia, an integral component of metabolic syndrome, is a major health problem causing gout and renal damage. Urine alkalizers such as citrate preparations facilitate renal excretion of the uric acid, but its supportive effect on xanthine oxidase inhibitors has not been tested yet. We performed a randomized, prospective study of the effect of a combination of allopurinol and a citrate preparation on renal function in patients with hyperuricemia, employing 70 patients who had hyperuricemia with serum uric acid levels ≥ 7.0 mg/dL, or those diagnosed as having hyperuricemia in the past.

METHODS:

They were randomly enrolled into two study groups: the allopurinol monotherapy (MT) group or combination treatment (CT) group with allopurinol and a citrate preparation. Allopurinol (100-200 mg/day) in the absence or presence of a citrate preparation (3 g/day) was administered for 12 weeks and levels of serum uric acid, its urinary clearance (Cua), and the renal glomerular filtration rates assessed with the creatinine clearance (Ccr) were evaluated before and after the treatment.

RESULTS:

Serum levels of uric acid decreased significantly in both groups, whereas the change observed was much greater in CT group. Cua was significantly increased in CT group but not in MT group. Ccr was not altered in both groups in general, whereas it was significantly increased in a fraction of CT group with decreased renal function.

CONCLUSIONS:

These results indicate that an additional use of citrate preparations with xanthine oxidase inhibitors is beneficial for patients with hyperuricemia, reducing circulating uric acid and improving their glomerular filtration rates.