

**Effect of vitamin e on urinary com binding protein.**

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**ABSTRACT**

Urinary stone disease has affected mankind since antiquity and persists with serious medical consequences throughout a patient's lifetime. Etiological factors for renal stone formation include hypercalciuria, hyperoxaluria, hyperuricosuria and hypocitraturia. Organic matrix of urinary stones is essential for its genesis and mineralization. Calcium oxalate monohydrate crystals adsorbed proteins have an important role in stone formation. Study of these proteins in order to assess the medical management becomes inevitable. Hence, the present study is aimed to find out whether vitamin E is capable of recovering the structural and functional alterations of calcium oxalate monohydrate binding proteins.

Group I - Normal healthy individuals (control)

Group II a - Stone patients

Group IIb - Stone Patients supplemented with vitamin E (Evion 400mg) for 3 months

Group II - Stone Patients supplemented with vitamin E (Evion 400mg) for 6 months

Group IId - Stone Patients supplemented with vitamin E (Evion 400mg) for 9 months

Twenty four hours urine samples were collected from stone formers before supplementation of vitamin E and at three months interval for the duration of nine months after supplementation. Vitamin E supplementation was given along with their regular treatment regime. Calcium Oxalate Monohydrate (COM) binding proteins were isolated, by DEAE cellulose column chromatography the major proteins were isolated. The salient feature of vitamin E is not only to upgrade the antioxidant status of the cell, but also to protect the proteins from oxidative damage, which indirectly aids in protection of stone formation. With vitamin E supplementation the aggregation of COM crystals were less pronounced. COM binding proteins were functionally altered and exhibited low thiol content in hyperoxaluric condition. The increased urinary risk factors and the altered kinetics of COM binding fractions were found to be normal on vitamin E pre-treatment.