

Effect of High Dose of Vitamin C in Reduction Serum Uric Acid: a Comparative Study between Hyperuricemic and Gouty Patients in Jeddah

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Abstract : Background: Vitamin C is a water soluble vitamin that is necessary for normal growth and development. Hyperuricemia is commonly detected in subjects with abnormal purine metabolism. Prolonged hyperuricemia is an important risk factor for damaged joint and often associated with gout. Objectives: To compare the effect of high dose of vitamin C supplements on uric acid treatment between hyperuricemic and gouty patients in Jeddah, Saudi Arabia, as well as finding out the effect of vitamin C on serum creatinine level and glomerular filtration rate (GFR). Subjects and Methods: This comparative study started on April 2013 and lasted till March 2014. A convenience sample of 30 adults was recruited in this study from Doctor Abdulrahman Taha Bakhsh Hospital in Jeddah (Saudi Arabia). Eligible persons were assigned into two study groups; hyperuricemic (n=15) and gouty (n=15) groups. Subjects have been accepted for participating in the study after completing the consent form. Each participant consumed 500 mg/day vitamin C chewable tablets. All participants have been followed-up for 2 months. Twelve hours fasting blood samples have been collected 3 times from each participant during the study period; at the beginning before and retested after each month of the study period. Uric acid, serum creatinine and GFR were measured. Results: For gouty group, uric acid increased insignificantly after 2 months by about +0.3 mg/dl. On the other hand, hyperuricemic group showed decrease ($P \leq 0.05$) in uric acid after 2 months of study period by about -0.78 mg/dl. Serum creatinine level insignificantly decreased for all participants during the study period, which led to insignificant increase in GFR for all participants. Conclusion: Supplementation with 500 mg/day vitamin C for 2 months significantly reduced serum uric acid for hyperuricemic patients and insignificantly increased serum uric acid for gouty patients. The ineffectiveness of vitamin C supplements on patients with established gout could be related to a number of potential reasons.

Keywords : vitamin c, Hyperuricemia, gout, creatinine, GFR

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