

***In vitro* inhibition of low density lipoprotein carbamylation by vitamins, as an ameliorating atherosclerotic risk in uremic patients.** M. A. Ghaffari and M. Shanaki, *Scand. J. Clin. Lab. Invest.*, **70**, 122-127 (2010).

**Introduction:** Previous studies have shown that the increase of carbamylated LDL (cLDL), a product of nonenzymatic modification of LDL in human serum by urea-derived cyanate, may cause cardiovascular complications in patients with chronic renal insufficiency. This study examined the inhibitory effect of ascorbic acid,  $\alpha$ -tocopherol and lycopene on LDL carbamylation in an in vitro model system. **Methods:** After isolation of LDL from plasma using an ultracentrifuge technique, cyanate was added to it and then LDL carbamylation was measured in both the absence and presence of ascorbic acid,  $\alpha$ -tocopherol and/or lycopene by the colorimetric method at 530 nm **Results:** The findings indicated that these vitamins inhibit LDL carbamylation and the most effective vitamin of the three is lycopene. Moreover, the effect of lycopene on this process increased in the presence of ascorbic acid and  $\alpha$ -tocopherol. **Conclusion:** This study indicated that ascorbic acid,  $\alpha$ -tocopherol and lycopene with antioxidant activity can probably inhibit LDL carbamylation and therefore may have a role in ameliorating atherosclerotic risk of patients with kidney failure. However in vitro and in vivo investigations are required to confirm the exact effects of these vitamins on patients suffering from uremic disorders.