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Effects of ascorbic and cinnamic acids on the albumin glycation level in breast cancer patients

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Glycation is the non-enzymatic interaction of carbohydrates with proteins. It is considered as a factor that leads to Alzheimer's disease, diabetes, aging, neuropathy, cancer, and atherosclerosis. *In vitro* and *in vivo* glycation was studied with human and bovine serum albumin as a model of the protein. A concentration of 0.1 M glucose was used as a glycation agent. The level of the Amadori product was determined by thiobarbituric acid calorimetric assay after hydrolysis. Advanced glycation end products (AGEPs) were measured by UV-visible spectrophotometry. Different concentrations of ascorbic acid (vitamin C) and cinnamic acid were found to be potent inhibitors of both the subsequent end products and the glycation reaction. The result showed that, the level of glycation in breast cancer patient is significantly high and ascorbic and cinnamic acids as inhibitors decreased the glycation reaction of albumin.