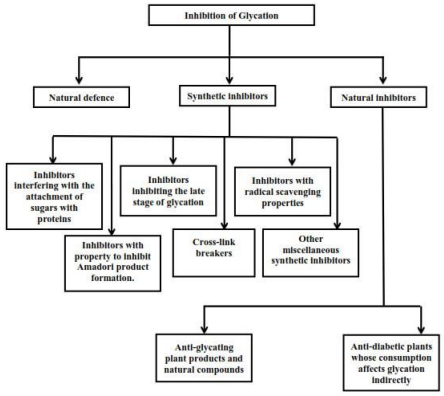
Glycation injury effects on aging and possible ways of prevention

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Abstarct:

Glycation is both a physiological and pathological process which mainly affects proteins, nucleic acids and lipids. Exogenous and endogenous glycation produces deleterious reactions that take place principally in the extracellular matrix environment or within the cell cytosol and organelles. Advanced glycation end product (AGE) formation begins by the non-enzymatic glycation of free amino groups by sugars and aldehydes which leads to a succession of rearrangements of intermediate compounds and ultimately to irreversibly bound products known as AGEs. Accumulation of advanced glycation end products (AGEs) on nucleotides, lipids, and peptides/proteins are an important part of the aging process in humans. Recent studies have revealed the contributing roles of AGEs in the development of various aging-related conditions, such as diabetes, heart disease and cancer. It is known that physical exercise improves the lipid profile, insulin resistance and reduces the risk of cardiovascular diseases.

Controlling the blood sugar level is a natural method to inhibit glycation in diabetes. A large number of plants and natural biomolecules have been shown to have antidiabetic effects too. It is also seen from animal studies that exercise reduces the concentration of AGEs and highly reactive intermediates of AGE. So, it can be stated that glycation can be prevented by the natural defense mechanisms in the body, synthetic and natural inhibitors.



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Dr. Fatema Tasnim graduated from University of Dhaka and then did her post - graduation in biochemistry from Bangabandhu Sheikh Mujib Medical University in Bangladesh. Her research involved a peptide vaspin's level in diabetic patients and its association with insulin sensitivity. She has completed the United States Medical Licensing examination step 1 and have been working with department for the aging for more than two years. She is particularly interested in diseases affecting the aged and has desire to pursue research in this area. She is currently a research assistant for the Center for the Women of New York.
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