Aims & Scope:

Diabetes has become a major metabolic disorder and socioeconomic issue for the world population. The changing lifestyle and dietary habits have become additional factor in the rise in the person affected due to Diabetes. The most common symptom of the Diabetes is hyperglycemia, the high blood glucose level. This leads to a metabolic condition which is known as glucotoxicity wherein the accumulated glucose starts disturbing the homeostasis. One of the mechanisms by which the glucose affects the cells is that reactive carbonyl group of this molecule (or other sugars) interacts nonenzymatically with the amino group of proteins and other molecules by a process known as glycation. This interaction leads to generation of Schiff bases and Amadori products which in turn get converted to a group of very harmful products commonly called as advanced glycation end products (AGEs). The accumulation of glycation-mediated products interferes with the metabolic and other functions of body. Glycation is implicated in aging and neurodegenerative diseases due to its ability to induce protein cross-linking, aggregation and precipitation, misfolding, fibril and amyloid formation. This process has been also a great concern for the food industry because of the browning of food. However, the exact mechanism by which these products cause damage to the biomolecules and cellular integrity is not fully known. In last few decades some antiglycating agents have been developed but they have found limited applications because of their adverse negative side effects. Accordingly, the focus has shifted to use the phytonutrients for their lower cost and lesser side effects.

Sub-topics:

Articles for this special issue covers but not limited to the following research area

- Recent advances in understanding the mechanism of glycation
- Characterization of AGEs
- AGEs and food industry
- Pathophysiology of glycation (Diabetes, cardiovascular and neurodegenerative disorders)
- Drugs for the treatment of Glycation and its downstream processes
- Recent advances in drug discovery from medicinal plants with antiglycating potentials

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