**AGE-RAGE STRESS IN CARDIAC DISEASES**

**K. Prasad**

College of Medicine, University of Saskatchewan, Saskatoon, SK, Canada

Advanced glycation end products(AGEs) are heterogeneous groups of irreversible adducts formed by glycation and glyoxidation of proteins, lipids, and nucleic acid with reducing sugars. AGE induces adverse effects directly and through interaction with its cell-bound receptor called RAGE. I have coined the adverse effects of AGE and its interaction with RAGE as “AGE-RAGE stress”. I have coined AGEs and RAGE as ”stressors”. The body has defence mechanisms such as enzymatic and receptor-mediated degradation of AGEs, soluble receptor for AGE (sRAGE), and reduction of consumption and formation of AGE, to counteract the adverse effects of AGE and AGE-RAGE interaction. I have termed the defence mechanism as “antistressors”. AGE-RAGE stress is defined as a shift in the balance between stressors and antistressors in favor of stressors. In other word AGE-RAGE stress is the ratio of Stressors/ antistressors, stressors being greater than antistressors. I have developed a method to assess the AGE-RAGE stress. The ratio of AGE/sRAGE is a simple, practical and important determinant of AGE-RAGE stress. A high ratio of AGE/sRAGE would indicate the presence of AGE-RAGE stress. A high AGE/sRAGE ratio is a risk factor for cardiovascular diseases. Presence of AGE-RAGE stress may be involved in the pathogenesis of cardiac diseases and their complications.