

PLENARY PRESENTATIONS

ANTIGLYCATION AND ANTI-INFLAMMATORY POTENTIAL OF *Aloe barbadensis* AND *Merendera persica*

Namrata Singh Pawan Sharma, Dinesh Kumar, Ahmad Ali*

Department of Life Sciences, University of Mumbai, Mumbai 400098 India

*Corresponding author: Dr. A. Ali, E-mail: ahmadali@mu.ac.in, Contact: +91 9870941656

Natural compound has been traditionally used for the treatments of many ailments such as diabetes, infections, injuries, gastrointestinal disorders etc. The aim of the study is to evaluate and characterize the biomolecules having antidiabetic and anti-inflammatory activity. *Aloe barbadensis* and *Merendera persica* have been used as they were used in traditional medicine practices. Colchicine is the key compound present in *M. persica* and aloe-emodin in *A. barbadensis*. In Unani and Ayurvedic system these plants have been reportedly used for the treatment for arthritis and inflammation related diseases. The estimation of total phenolic and total flavonoid contents were evaluated using FC and aluminium chloride method respectively. Antioxidants potential was evaluated by 2,2'-Azino-bis(3-ethylbenzothiazoline-6-sulfonic acid) (ABTS), nitric oxide (NO), ferric reducing antioxidant power (FRAP), 2,2-diphenyl-1-picrylhydrazyl (DPPH), and lipid peroxidation (LPO). The plant extracts were treated for MG-induced glycoxidative DNA damage protection, for anti-inflammatory, egg albumin protein denaturation assay was performed. The anti-glycation potential was evaluated using Nitro Blue Tetrazolium, Congo-red, 3,5-dinitrosalicylic acid and spectrofluorometer was used to determine the formation of total AGEs. Anti-diabetic potential is evaluated by α -amylase inhibition assay. Fourier-transform infrared spectroscopy (FTIR) was used to determine the functional groups of the phytochemicals, HPLC is used to determine the colchicine and aloe-emodin fingerprints with standards. The results show notable antioxidant with an IC₅₀ ranges 1.23mg/ml to 2.89mg/ml for *M. persica* and 1.47mg/ml to 4.16mg/ml for *A. barbadensis*, anti-inflammatory, and antiglycation potential of both plants and thereby substantiating their uses in traditional medicine.

Keywords: Anti-diabetic, Anti-glycation, Anti-oxidant, anti-inflammation, *Aloe barbadensis*, *Merendera persica*.