Pharmacognosy-2013
International Conference and Exhibition on
Pharmacognosy, Phytochemistry & Natural Products
October 21-23, 2013 Radisson Blu Plaza Hotel, Hyderabad, India

Comparison of the Hypoglycaemic effect of aqueous extracts of natural plant and cali of *Munronia pinnata* in Alloxan induced diabetic Wistar rats

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Abstract

Munronia pinnata (wall) Theob. (Family- Maliaceae) locally called as "*Bin kohomba*" is one of the most demanded herbs in the Sri Lankan drug market which is listed under threatened category due to overexploitation. Hence, there is an urgent need to adopt *ex situ* conservation methods via *in vitro* propagation techniques. The possible use of calli as a substitute for whole plants has been quarried. Despite its long record of usage in indigenous clinical practices, biological activities of *M. pinnata* have not been investigated so far. The purpose of the present study was thus to compare the hypoglycaemic effect of aqueous extracts of natural plant (MPaq) and calli (MPCaq) of *M. pinnata* in alloxan induced diabetic Wistar rats. Three leaflet types of natural plants and 3- months' old calli of *Munronia pinnata* were used for the preparation of aqueous extracts. Both extracts were administered to healthy and diabetic Wistar rats with different doses. Hypoglycaemic activity was determined with standard anti diabetic drug and ayurvedic anti diabetic plants *S. reticulata* and *A. panicula*. Acute and chronic toxicity studies of both extracts were carried out in healthy rats. Both aqueous extracts comparatively maintain the serum glucose level like standard anti diabetic drugs and established ayurvedic anti diabetic plants. There was a 22% reduction in the serum glucose concentration of diabetic rats of MPCaq as same as glibenclamide group and 29 % ($P < 0.001$) reduction of MPaq compared to the control group

Biography

Swarna Hapuarachchi, is a Senior Lecturer attached to the Department of Materia Medica, Institute Indigenous Medicine, University of Colombo, Sri Lanka. She got BAMS from Institute of Indigenous Medicne, University of Colombo, Sri Lanka, (1990), M.D (Materia Medica) from Banaras Hindu University, India (1998) and M.Sc (Plant Sciences) University of Peradeniya, Sri Lanka (2007). She has established a tissue culture laboratory in her institute in order to carry out further studies on tissue cultured plants and natural plants and also their biological activities. At present she is reading for Ph. D at the Department of Biochemistry, University of Sri Jayewardenepura, Sri Lanka.