PO1845

A SCIENTIFIC VALIDATION OF ANTIHYPERGLY-CEMIC AND ANTIHYPERLIPEMIC ATTRIBUTES OF TRICHOSANTHES DIOICA FRUITS

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Background and objectives: Trichosanthes dioica had been considered as an effective and safe ethnotherapeutic in Indian traditional system of medicine. The objective of the study was to validarte the glycemic potential of T. dioica fruits.

Methods: Effects of variable doses of lyophilized powder of its aqueous extract were studied on blood glucose level (BGL), hemoglobin (Hb), total protein (TP), and lipid profile of normal, mild and severely diabetic animals. Body weight (bw) and urine sugar (US) were additional parameters studied.

Results: Dose of 1000 mg/kg decreases BGL of normal and mild diabetic rats significantly (P< 0.01) during fasting blood glucose (FBG) and glucose tolerance test (GTT) studies respectively. Four weeks long term study of severely diabetic rats with the same dose showed significant fall (P< 0.001) in FBG, postprandial glucose (PPG), total cholesterol (TC) and triglyceride (TG) levels. A significant increase (P<0.01) in high density lipoprotein (HDL) is of value addition. TP, Hb and bw also showed significant increase (P<0.05). Moreover, a significant reduction in US was observed from +4 to +1.

Conclusions: The scientific validation of ethnotherapeutics efficacy of T. dioica as an antidiabetic agent could be used for developing an oral drug managing diabetes and hyperlipidemia associated with it.

Key words: Trichosanthes dioica, antidiabetic, hyperlipemia, Wister rats.

PO1846

BMSO ALTERS WHITE ADIPOSE TISSUE PROTEIN PROFILES IN C57BL/6J MICE DISPLAYING DELIPI-DATIVE, INFLAMMATORY AND BROWNING CHA-RACTERISTICS

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Background and objectives: We have previous shown the anti-adiposity effects of bitter melon seed oil (BMSO), which is rich in cis-9, trans-11, trans-13 conjugated linolenic acid (c9,t11,t13-CLN), in C57BL/6J mice. In this study, a proteomic approach was carries out to compare the protein profiles differentially expressed in the white adipose tissue (WAT) of mice fed a soybean oil based high fat diet with or without BMSO. Methods and

Results: Two-dimensional difference gel electrophoresis (pH4-7) revealed 32 statistically significant spot changes (>2-fold, P<0.05). Among them, 15 up- and 8 down-regulated proteins by BMSO were identified. Combined with histological analysis which shows BMSO resulted in macrophage infiltration and brown adipocyte recruitment, the proteomic data depict a WAT, affected by chronic BMSO administration, featuring a reduced caveolae formation, increased ROS insult, tissue remodeling/repair, and mitochondria uncoupling activity, as well as stabilized actin cytoskeleton, putatively related with an increased inflammation response.

Conclusions: This study provides an opportunity to find out some novel genes participating in the delipidative, inflammatory and browning of the WAT, and these changes may account for the BMSO-mediated anti-adiposity effect.

Key words: Bitter melon seed oil, proteomic analysis, white adipose tissue.

PO1847

SERUM VITAMIN D AND RISK OF ALZHEIMER'S DISEASE

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Background and objectives: Low vitamin D status has been suggested to be related to an increased Alzheimer's disease risk. The present study investigates whether serum vitamin D level predicts the occurrence of the disease.

Methods: The study was based on the Mini–Finland Health Survey. The study population consisted of 5010 men and women, aged 50-79 years of age and free from Alzheimer's disease. During a 17–year follow–up period, 151 incident Alzheimer's disease (ICD–10 code 290) cases occurred according to a population wide Hospital Discharge Register and death certificates. Serum 25(OH)D concentration was determined by radioimmunoassay from serum samples frozen at –20°C and stored at baseline of the study. Sociodemographic, lifestyle and metabolic factors were determined by questionnaires, interviews and measurements at baseline. The strength of association between serum 25(OH)D concentration and Alzheimer's disease incidence was estimated using Cox's model.

Results: Individuals with higher serum vitamin D concentrations showed a statistically significantly reduced risk of Alzheimer's disease in women. The relative risk between the highest and lowest quartiles of serum vitamin D was 0.38 (95%