

Herbals & Natural Remedies

October 26-27, 2015 Chicago, USA

Mohana Choorna: A traditional Ayurvedic herbal preparation against a modern common disease - Diabetes Mellitus 2

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Diabetes Mellitus, often simply referred to as diabetes, is a multi-system dysfunction in which a person has high blood sugar, either because the body does not produce enough insulin, or because cells do not respond to the insulin that is produced. Also, there are several factors that are not obvious from biological considerations alone. Therefore, the search for a single drug target to the reversal of all or majority of the aspects of the disease might not give the solution because biological systems are too complex to be fully understood through conventional and isolated experimentations, as they are not always linear. The Ayurvedic herbal formula MC contains a variety of herbal ingredients that incorporate synergistic, potentiative, agonistic, antagonistic pharmacological agents, and hence act on a variety of targets by various modes and mechanisms. Therefore, the therapeutic approach of MC is more holistic than regularly used Western medicines for DM 2. There are significant changes in the system biology after the use of MC resulting in lowering blood sugar levels (glycosylated haemoglobin) and blood lipid levels (triglyceride, total cholesterol, low density lipoprotein and high density lipoprotein) in DM 2 patients. It is interesting to find out which plant compounds, including already proven health-promoting metabolites, are present in the 20 herbs comprising MC, which are cultivated using a traditional Indian method of natural fertilizer (Panchagavyam). The herbal medicine is analysed using a holistic, unbiased metabolomics approach and the system (patient) is analysed using a holistic unbiased approach by expression analysis of hundreds of genes and physiological parameters. Finally, the methods of cultivation are researched so that the homogeneity of components is maintained and that the composition of the herbal preparation is standardized as much as possible. For these studies research collaboration between Europa Ayurveda Centrum, Wageningen University (two departments), Canisius Wilhelmina Hospital, and Europroxima was made. EAC cultivated the plants and made the herbal preparation. Europroxima tested on safety of the herbal material. WUR-PRI will do the metabolomics (compound analyses) of the plant material and the capsules. WU-Human Nutrition together with Canisius Wilhelmina Hospital worked as a research organization and clinical hospital, respectively, to execute the clinical trial. This project was subdivided into two distinguished parts and each of the parts has its own approach. In the part on the presence and quantification of (health-promoting) plant metabolites in the twenty selected herbal species, and the quantification of these metabolites and possible derivatives in the herbal preparation MC, the biochemical composition is analyzed in an unbiased way via metabolomics profiling, screening thousands of compounds. A quality analysis is performed by analyzing different batches of the herbal preparation for the identified metabolites in which batches will be compared on their compound composition. In addition, safety analyses on the possible presence of residues and bacterial pathogens are carried out.

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