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Role of *Garcinia* fruits in Obesity control

Obesity is a global public menace now-a-days, with approximately 315 million people are suffering from this serious health problem. Indigenous herbal medicines may play a very important role in managing obesity as the most of the ailments can be cured through herbal therapy. The complex mixtures of phytochemicals in ethno-medicines often contain that have additive or synergistic interactions. Fruits of *Garcinia* and unique source of Hydroxycitric acid have a distinct sour taste and has been used for centuries in South-East Asia region to make meals more filling. Inhibition of carbohydrate to fatty acid conversion reaction can lead to obesity control and can be accomplished by assay of Hydroxycitric acid that stops the ATP-citrate lyase formation which is responsible for lipogenesis. (-)-HCA is a derivative of citric acid and found in *Garcinia* fruits as the principal acid. Our study deals with the subjugating effects of (-)-HCA on lipogenesis in animal model. Wistar rats were fed with a high-fat diet (HFD, 45 kcal% fat) for 60 days. They were given access to food and distilled water *ad libitum*. The body weights were measured weekly and several important parameters

viz. as Cholesterol, Triglycerides, HDL-D, Cholesterol were recorded. Statistical analyses were performed using SPSS13. Significant changes in body weight between the groups were observed. Supplementation of (-)-HCA significantly lowered visceral fat accumulation in Wistar rats. Our findings establish that Hydroxycitric acid is responsible for repression of lipogenesis in Wistar rats and could be suggested an antiobesity agent.

Speaker Biography

Bijoy Neog has his expertise in Cytogenetics & Plant Breeding. He has worked in biochemical mechanism self-incompatible of *Camellia sinensis* for his doctoral thesis. He has keen interest in multidisciplinary approaches in biological sciences and has authored of over 50 research papers and book chapters in various National and International Journals. His special interest is in the field of lesser known fruit species of pharmaceutical importance from eastern Himalayan Region of Indo-China Border. He was awarded prestigious Chinese Government Scholarship for Post-Doctoral Research in 2005-06. He has P.G. teaching experience for 24 years and presently working as Professor in the Department of Life Sciences, Dibrugarh University, Assam, India.

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