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Ellagitannin geraniin supplementation ameliorates metabolic risks in high-fat diet-induced obese Sprague Dawley rats

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Geraniin, an ellagitannin found abundantly in many fruits, nuts, traditional Chinese medicine (TCM) and ayurvedic herbs, has been reported to possess numerous health benefits. This is the first study that elucidates geraniin, purified from the sub-tropical fruit Nephelium lappaceum L. rind, for its therapeutic potential in ameliorating diet-induced metabolic risks mimicking metabolic syndrome. Male post-weaning outbred Sprague Dawley rats received a 60% high-fat diet (HFD), with and without the geraniin supplementation (10 and 50 mg/kg body weight), while the control group (ND) was fed rat chows for 10 consecutive weeks. Comparatively, HFD rats demonstrated elevated body weights, white adipose tissue depots (WAT), organ weights, triaylglycerol, renal and hepatic dysfunction biomarkers, insulin resistance, declined insulin sensitivity and percent of beta-cell function. A four-week *in vivo* geraniin treatment, particularly at 50 mg/kg body weight, exhibited significant therapeutic potential to safely mitigate obesity-induced metabolic dysfunction.

Biography

Uma Palanisamy completed her Ph.D from Cambridge University and started her career at an Industrial Research Institute in Malaysia. She pioneered Research into Natural Product Cosmeceutical and Nutraceutical Discovery. She has to her name a number of patents out of this research. She joined academia 8 years ago and has since moved to Natural Product Drug Discovery particularly in the areas of diabetes and obesity. She has filed six patents, published more than 25 papers in reputed journals, serves as an editorial board member of reputed journals and is a member of International Committees on Nutritional Health and Food Science.

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