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Biochemical-studies of *Piper betle L.* Leaf Extract on Obese Treated Animal using ¹H-NMR-Based Metabolomic Approach of Blood Serum Samples

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Abstract

Piper Betle L. (PB) belongs to the Piperaceae family. The presence of a fairly large quantity of diastase in the betel leaf is deemed to play an important role in starch digestion and calls for the study of weight loss activities and metabolite profile from PB leaf extracts using metabolomics approach to be performed. PB dried leaves were extracted with 70% ethanol and the extracts were subjected to five groups of rats fed with high fat (HF) and standard diet (SD). They were then fed with the extracts in two doses and compared with a negative control group given water only according to the study protocol. The body weights and food intakes were monitored every week. At the end of the study, blood serum of the experimental animal was analysed to determine the biochemical and metabolite changes. PB treated group demonstrated inhibition of body weight gain without showing an effect on the food intake. In serum bioassay, the PB treated group (HF/PB (100mg/kg and 500mg/kg) showed an increased in glucose and cholesterol levels compared to the Standard Diet (SD/WTR) group,

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