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Antiobesity efficacy and lipid lowering efficacies of piperine & pellitorine: A study on high fat diet induced obese Sprague Dawley rats

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Obesity is a major health problem globally due to sedentary lifestyles. It is associated with multiple diseases like hypertension, type-2 diabetes, coronary vascular diseases and atherosclerosis, etc. *Piper nigrum linn* is used in traditional medicine to treat stomach ache, diabetes, obesity, cancer and hypertension. Piperine is the major bioactive principle in the *piperaceae* family. The objective of the present work was to evaluate the antihyperlipidemic and anti-obesity efficacy of piprine and pellitorine in high fat diet (HFD) induced rats. We have isolated piperine from ethanolic exact and pellitorine from ethylacetate and characterised by using HPLC, mass spectroscopy, FTIR and NMR studies. After induction of obesity, animals were fed with 30 mg/kg b.wt of piperine and 25ml/kg kg b.wt of pellitorine were administered to experimental groups for 5 weeks by meal feeding pattern, orlistat (5 mg/kg b.wt) is used for standard drug control. At the end of the experiment, total body weights, lipid profiles, total protein, creatine and urea were measured. Piperine and pellitorine significantly reduced the body weights as well as serum triglycerides, total cholesterol and creatinine but raised HDL levels of HFD-induced obese experimental rats when compared to HFD controls rats. The present study revealed that bioactive fractions antiobesity efficacy, more particularly piperine have significant body weight reducing and lipid lowering activity when compared pellitorine.