The Cholesterol Lowering Effects of Eurycoma longifolia Jack (Tongkat Ali) Root Extract in Male Rats

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Abstract
Background: To investigate the effect of Eurycoma longifolia Jack root extract on serum lipids in rats. Methods: Twenty-six mature male albino Wistar rats were used in this study. A group of 18 rats were fed a high fat and high cholesterol diet for 4 weeks, after which their lipid profile was compared to the control group, who were kept on a normal diet. The rats were then further divided into three groups, the Cf group that continued to feed on a high fat and cholesterol diet only, and group A and group B who continued on a high fat diet with the addition of 5 mg/kg and 10 mg/kg of Eurycoma longifolia Jack root extract respectively for 4 weeks. After the 4 week period, the rat's lipid profiles were analysed again. Results: Group A and B showed significant total cholesterol reduction when compared to the Cf group, 140 +/- 7.23, 139.63 +/- 7.95, 192.14 +/- 8.96 mg/dL respectively (p < 0.001). The total cholesterol/HDL ratio in group A was 5 however there was a sharp increase in group B to a high-risk level of 9.2 indicating a significant drop in HDL levels. The LDL level increased significantly in both group A and B compared to the Cf group. Conclusions: Eurycoma longifolia Jack root extract is effective in lowering total cholesterol, however the dose needs to be adjusted to prevent an excessive decrease in HDL levels.

Keywords
Author Keywords: wistar rats; cholesterol; Eurycoma longifolia Jack; HDL; LDL
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