Lipid-Lowering activity of *Parkia biglobosa* leaf saponins in Triton-X 1339-induced hyperlipidemic rats

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Abstract

**Introduction**

*Parkia biglobosa* leaf has popular ethnomedicinal use in the management of heart-related diseases like hypertension in South-western Nigeria. Hyperlipidemia has been described as the greatest risk factor contributing to the prevalence and severity of coronary heart diseases. Literature claims that Saponins are able to reduce hyperlipidemia. The present study was conducted to investigate the effect of saponins from *Parkia biglobosa* leaf (PBS) on triton-induced hyperlipidemia in rats.

**Experimental Part**

Hyperlipidemia was induced in wistar rats by single intraperitoneal (i.p) injections of Triton X-1339 at a dose of 350 mg/kg b.w following oral pretreatment with *P. biglobosa* saponin mixture at a dose of 30- or 60mg/kg/day (p.o) for five consecutive days. Nicotinic acid (500 mg/kg p.o) was used as reference standard. Another group of rats received *Parkia biglobosa* saponins (40 mg/kg b.w/day) alone for same number of days. Animals were sacrificed by euthanasia on the 6th day of experiment and 20 hr after triton induction to determine the serum lipid profile.

**Results and Discussion**

Feeding with *Parkia biglobosa* saponins exerted lipid lowering effect by preventing triton-induced increase in serum cholesterol, triglyceride, low density lipoprotein (LDL) and decrease in high density lipoprotein (HDL) in a statistically significant manner (P<0.05). Elevated serum LDL/HDL ratio of triton-induced rats was also prevented. The observed effect of PBS was comparable to that of the standard nicotinic acid. PBS alone however, caused significantly reduced serum lipid profile in rats.

**Conclusion**

The present findings showed the hypolipidemic effect of PBS and its ability to suppress triton induced hyperlipidemia in rats. It further suggests its potential usefulness as hypolipidemic agent and possible protective role in coronary heart disease.