

Elateriospermum tapos ameliorates maternal obesity effect on serum leptin changes in male offspring

ABSTRACT

The purpose of this study is to investigate the effect of *Elateriospermum tapos* aqueous extract supplementation on serum leptin of male offspring at weaning. A total of 30 female Sprague Dawley rats were assigned to two groups, where the control group (CG) consisted of six rats and the remaining rats had obesity-induced over five weeks with a high-fat diet pellet and cafeteria food. After five weeks, the obese group was further divided into four groups, a negative control group (NG), positive control group (PG) (orlistat 200 mg/kg), treatment 1 (TX1) (200 mg/kg BW of *E. tapos* seed) and treatment 2 (TX2) (200 mg/kg BW of *E. tapos* shell) for 6 weeks. After six weeks, all rats were mated and continued with their respective diet till weaning. One male pup from each dam culled at weaning (postnatal day 21 (PND21)). The results show that body weight in male offspring (M) from negative group dams (NG) was significantly heavier as compared to other pup groups. Total adipose tissue weight in MTX1 and MTX2 of the male offspring was also significantly lower compared to MNG. In mums, serum leptin of NG was significantly higher as compared to the CG group, whereas both treatment groups showed a significant reduction in serum leptin compared to the NG group. In pups, the MTX2 group showed a more substantial reduction in body weight and serum leptin compared to other pups from other mother's groups. In conclusion, *E. tapos* aqueous extract supplementation has a greater effect on ameliorating maternal obesity effects on male offspring by lowering body weight, inhibit fat deposition, and reducing serum leptin.

Keyword: Maternal obesity; *Elateriospermum tapos*; High-fat diet; Cafeteria diet; Leptin