

บทคัดย่อภาษาอังกฤษ

In women facing menopause, end of menstrual activity, often found many health disorders which are associated with lower levels of estrogen and obesity. The use of plant extracts is probably a good choice to possess anti-obesity activities. The pomegranate seed contains punicalic acid that can help to prevent obesity. Therefore, this experiment aimed to study effects of Thai pomegranate seed oil on obesity in ovariectomized rats which is a model for menopause. Food intake, body weight, weight gain, visceral adipose tissue accumulation, plasma levels of total cholesterol (TC) and triglyceride in ovariectomized (OVX) and sham-operated rats (Sham). Female Wistar rats (n=80) were divided into 2 main groups: ovariectomized (OVX) and sham-operated rats (Sham) which were orally administered with corn oil (1 ml/kg) punicalic acid (1000 mg/ml/kg) punicalic acid (2000 mg/ml/kg) Thai pomegranate seed oil (1000 mg/ml/kg) and Thai pomegranate seed oil (2000 mg/ml/kg) for 28 days. Daily food intake, weekly body weight were recorded. At the end of experiment, blood samples were collected *via* cardiac puncture to determine plasma levels of glucose, total cholesterol (TC), triglyceride (TG), aspartate aminotransferase (AST) and alanine aminotransferase (ALT) using automatic blood analyzer. After that, visceral adipose tissue (epididymal, perirenal and mesenteric adipose tissues), liver, heart and kidneys were collected and relative organ weight (ROW) were determined. The present results indicated that Thai pomegranate seed oil possessed selective effects on ovariectomized rats. Thai pomegranate seed oil caused markedly reduction of weight gain, daily food intake, and relative organ weight of visceral adipose tissue of ovariectomized rats. Thai pomegranate seed oil had no effect on plasma levels of glucose, total cholesterol, triglyceride AST and ALT in ovariectomized rats. Bioactive compounds that responsible for these effects of Thai pomegranate seed oil may not be punicalic acid since punicalic acid did not cause reduction in weight gain, daily food intake, and relative organ weight of visceral adipose tissue of ovariectomized rats. Punicalic acid showed hypercholesterolemic and hypotriglyceridemic effects in ovariectomized rats. These results suggest that a dietary supplement of Thai pomegranate seed oil may be useful to control the body weight and prevent obesity in menopausal woman.