Antiobesity activity of some Cirsium species

Sila Özlem Şener1, Ufuk Ozgen1, Gulcin Saltan Iscan2, Nuriye Korkmaz1, Seyda Akkaya1, Merve Badem1, Tuncay Dirmenci3, Turan Arabaci1 and Rezzan Aliyazicioglu1

1Karadeniz Technical University, Turkey
2Ankara University, Turkey
3Balıkesir University, Turkey
4İnönü University, Turkey

Obesity is a serious and chronic health problem that is the basis of many diseases such as cardiovascular diseases, certain types of cancer, osteoarthritis and diabetes. Cirsium (Asteraceae) genus is represented by 67 species (79 taxa, 32 endemic) in Turkey. Cirsium genus have been used as anti-inflammatory, diuretics and venoactive remedies, traditionally. The goal of the present study is to evaluate antiobesity effect of the methanolic extracts of some Cirsium species in normal and high fat diet (HFD) induced obese rats. Male Spraque Dawley rats were divided into seven groups. HFD induced obese rats were treated with methanolic extract (200 mg/kg) and orlistat (5 mg/kg) orally, besides non-obese control group were treated with normal diet for eight weeks. At the end of the experimental duration, to interpret antiobesity activity, body weight was measured per week for eight weeks and serum samples were obtained for lipid profile analysis. Serum samples from rats were analyzed in terms of some biochemical parameters, low density lipoprotein (LDL), high density lipoprotein (HDL), triglycerides (TG), leptin and adiponectin. Oral administration of the extracts and positive control orlistat reduced body weight (p<0.005). Moreover, the treatments resulted in increased serum HDL (p≤0.05) and adiponectin (p≤0.05); decreased in LDL (p≤0.05), TG (p≤0.05) and leptin (p≤0.05). According to results, the methanolic extracts of some Cirsium species displayed antiobesity activity. Thus, the Cirsium species can be a potential source of herbal medicine for obesity and its complications. Further investigations and human trials are required for understanding the therapeutic effects of Cirsium species for the global health problem.

Recent Publications


Biography

Sila Özlem Şener has her expertise in Pharmacognosy and Phytoterpistry, studying enzyme activities, isolations, HPLC analysis, in vivo and in vitro studies on wound healing and anti-obesity mechanisms.