

The appetite regulatory effect of guggulsterones in rats: a repertoire of plasma hormones and neurotransmitters.

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Abstract

Guggulsterone or guggulipid is a steroidal constituent present in the neutral fraction of gum resin of *Commiphora mukul*, commonly known as guggul. The traditional uses of guggul-resin extract are well documented in the Ayurveda-where it is prescribed to treat a variety of ailments including lipid-related disorders such as obesity and arteriosclerosis. The hypolipidemic activity of the extracts known since ancient times can be traced to the two closely related steroidal ketones, E-guggulsterone and Z-guggulsterone. In this study, we have investigated the dose dependent (100, 200, 400 mg/kg body weight) effect of guggulsterones on appetite regulating hormones [ghrelin, leptin, cholecystokinin (CCK)] and neurotransmitters (serotonin and dopamine), which play a major role in the energy homeostasis and thus influence obesity related factors. We have also studied its effect on food intake, body weight and plasma triglycerides and glucose in rats. Guggulsterones at the dose of 400 mg/kg body weight was able to significantly reduce food intake and limit body weight gain over a period of 15 days. It also significantly decreased the plasma ghrelin, glucose, triglyceride levels and increased plasma leptin, serotonin, dopamine levels, but did not show much effect on CCK levels.

KEYWORDS: food intake; ghrelin; guggulsterones; leptin; plasma glucose; serotonin

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