

ABSTRACT

TITLE OF THE STUDY:

A study to explore the weight reducing property of Dolichos biflorus and Metformin-mechanistic study.

INTRODUCTION:

Obesity is defined as a condition of abnormal or excessive fat accumulation in adipose tissue to the extent that health is impaired. Obesity is associated with noncommunicable diseases like hypertension, diabetes mellitus, cancer and infertility. WHO has declared obesity as global epidemic. The etiology of obesity is multifactorial and is due to the interaction of genetic, environmental and social factors. Diet and exercise form the main stay of treatment of obesity but difficult to practice. Antiobesity drugs available are associated with side effects and lead to rebound increase in body weight after withdrawal. Herbal supplements are alternative treatment modalities.

Dolichos biflorus commonly as horse gram in traditional medicine has many medicinal qualities. Previous studies have proved the anti-inflammatory and antioxidant property of cold extract of Dolichos. It also has hypolipidemic and anorectic property. In this study we explored the mechanism of weight reducing property of cold extract of Dolichos in comparison to Metformin in an obese rat model.

MATERIALS AND METHODS:

Male Swiss albino rats

Dolichos biflorus 12 hours cold extract.

High fat diet

Tab. Metformin

The male Swiss albino rats were divided into 3 groups of 6 animals each. 6 animals were taken as control and baseline parameters were taken. Obesity is induced in group B and Group C with high fat diet for a period of 6 weeks followed by treatment with cold extract of Dolichos in group B and with Metformin in Group B. Group A was given cold extract along with high fat diet. Post induction and Post treatment parameters were taken.

Parameters taken were food intake, eating behavior, weight, BMI, blood collection for analysis- serum SOD, serum MDA, serum cholesterol, serum Triglycerides, serum IL 6, Serum leptin, serum lipase and serum adiponectin.

RESULTS:

We found that cold extract of Dolichos had antiobesity property due to central and peripheral mechanism and it also had antioxidant, anti-inflammatory and metabolic effects. The effects were equally effective and comparable to that of Metformin. Thus cold extract can be used as a pharmacological tool for the treatment of obesity after relevant clinical studies.

Key words: obesity, Dolichos biflorus, Metformin, High fat diet