

# The Efficacy of Boswellia Serrata Gum Resin for Control of Lipid Profile and Blood Glucose in Diabetic Patients

Saeed Mehrzadi<sup>1</sup>,  
Bahreh Tavakolifar<sup>2</sup>,  
Hasan Fallah Huseini<sup>3</sup>,  
Seyed Hamdollah Mosavat<sup>4</sup>,  
Mojtaba Heydari<sup>4</sup>

<sup>1</sup>Department of Pharmacology, School of Medicine, Iran University of Medical Sciences, Tehran, Iran;

<sup>2</sup>Department of Pharmacology, Alborz University of Medical Sciences, Karaj, Alborz, Iran;

<sup>3</sup>Medicinal Plants Research Center, Institute of Medicinal Plants, ACECR, Karaj, Iran;

<sup>4</sup>Research Center for Traditional Medicine and History of Medicine, Shiraz University of Medical Sciences, Shiraz, Iran

## Abstract

**Background:** Regarding preclinical evidence for antidiabetic effects of *Boswellia serrata*, we evaluated anti-hyperglycemic and lipid-lowering effects of *Boswellia serrata* gum resin in type 2 diabetic patients in a double-blind randomized placebo-control trial.

**Methods:** Fifty-six diabetic patients were randomly allocated to two groups to receive 250 mg of the *Boswellia serrata* gum resin or placebo twice daily for 8 weeks, in addition to their routine antidiabetic treatments. Fasting blood sugar (FBS), glycosylated hemoglobin (HbA1c), insulin level, total cholesterol, low-density lipoprotein (LDL), high-density lipoprotein (HDL) and triglyceride of serum were measured before and after the intervention.

**Results:** Although there was a considerable reduction after the intervention in FBS ( $P=0.04$ ), HbA1c ( $P=0.02$ ) and triglyceride ( $P=0.01$ ) in the *Boswellia serrata* gum resin group, no significant difference was observed in all outcome measures between the two groups at the end of the study (FBS  $P=0.09$ , HbA1c  $P=0.20$ , total cholesterol  $P=0.31$ , LDL  $P=0.49$ , HDL  $P=0.10$ , triglyceride  $P=0.78$  and insulin level  $P=0.86$ ).

**Conclusion:** The current study showed the 8 weeks complementary use of *Boswellia serrata* gum resin with a daily dose of 500 mg had no better glucose and lipid lowering effect than placebo in diabetic patients.

**Keywords** • *Boswellia* • Diabetes mellitus • Lipids • Complementary therapies • Herbal medicine