Antihypertensive effect of *Lepidium sativum* L. in spontaneously hypertensive rats

Mhamed Maghrani*, Naoufel-Ali Zeggwagh*, Jean-Baptiste Michel*, Mohamed Eddouks*

**Abstract**

The antihypertensive and diuretic effects of the aqueous extract of *Lepidium sativum* L. (LS) were studied both in normotensive (WKY) and spontaneously hypertensive rats (SHR). Daily oral administration of the aqueous LS extract (20 mg/kg for 3 weeks) exhibited a significant decrease in blood pressure ($p < 0.01$) in SHR rats while in WKY rats, no significant change was noted during the period of treatment. The systolic blood pressure was decreased significantly from the 7th day ($p < 0.05$) to the end of treatment ($p < 0.01$) in SHR rats.

The aqueous LS extract enhanced significantly the water excretion in WKY rats ($p < 0.001$) but no statistically significant change was observed in SHR rats. Furthermore, oral administration of aqueous LS extract at a dose of 20 mg/kg produced a significant increase of urinary excretion of sodium ($p < 0.05$), potassium ($p < 0.01$) and chlorides ($p < 0.01$) in WKY rats. In spontaneously hypertensive rats, the aqueous LS extract administration induced a significant increase of urinary elimination of sodium ($p < 0.01$), potassium ($p < 0.001$) and chlorides ($p < 0.001$). Glomerular filtration rate showed a significant increase after oral administration of LS in normal rats ($p < 0.001$) while in SHR rats, no significant change was noted during the period of treatment. Furthermore, no significant changes were noted on heart rate after LS treatment in SHR as well as in WKY rats.

Our results suggest that daily oral administration of aqueous LS extract for 3 weeks exhibited antihypertensive and diuretic activities.

**Keywords**

Antihypertensive; Diuretic; Glomerular filtration rate; *Lepidium sativum*; Systolic blood pressure; SHR; WKY

**Corresponding author. Tel.: +212 55 57 44 97; fax: +212 55 57 44 85.**

Copyright © 2005 Elsevier Ireland Ltd. All rights reserved.