

# The role of *Lepidium sativum* as free radical scavenger in laboratory mice

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## ABSTRACT

**Background:** *Lepidium sativum* is a by-product remaining after the extraction of the oil from Garden cress seeds which considered one of the popular medicinal herbs used in Arabian countries and traditionally used in controlling many clinical problems. The present study is to uncover the free radicals scavenging properties of these seeds and also its role in improvement the testicular tissues and the seminal properties.

**Material and methods:** Thirty tow sexually mature mice were used, the treated groups divided in three groups; the first one (G1) was treated with 0.1 ml of GC seed extraction in dose of 5mg/kg BW, the second one(G2) was treated with 0.1 ml sodium nitrate as oxidant, and the last treated group (G3) was treated with 0.1 ml of GC seed extraction after one hour of injection of 0.1 ml sodium nitrate.

**Results:** The result showed improvement of the testicular tissue and the significantly elevation in sperms viability, in addition to significant enhancement both of RBC count and Hb concentration and remove the negative effect of sodium nitrate on blood parameter values by its role as free radical scavenger.

**Key words :** Garden cress seeds , *Lepidium sativum* , free radical scavenger

## INTRODUCTION

*Lepidium sativum* locally known as ‘garden cress (GC)’. The plant and seeds are considered one of the popular medicinal herbs used in many Arabic countries as a good mediator for bone fracture healing in the human skeleton (1).

A number of recent studies pointed out the traditional uses of *Lepidium sativum* seeds extract in controlling many clinical problems. They were used as anti-asthmatic antiscorbutic, aperients, diuretic, galactagogues, poultice and stimulant. The leaves are antiscorbutic, diuretic and stimulant (2).

*Lepidium sativum* has been studied pharmacologically for its laxative (3), antibacterial (4), bronchodilatory (5), contraceptive effects (6) and in inflammatory bowel disease (7). The seedlings contain significant amount of protein , fat , iron , calcium , folic acid ,vitamin A and C. (8)

The present investigation was undertaken to screen the free radical scavenging activity of these seeds , in addition , its role in activation of epidymal sperms.

## Material and methods

The seeds of *Lepidium sativum* were purchased from local market. they were cleaned manually to remove dirt, dust and extraneous mater. and grinded by electrical blander. Oily extracted preparation using hot continuous Soxhlet extraction method. (9). The extract was stored in dark container in a refrigerator until its need.

Thirty tow sexually mature mice aged 6-7 weeks were used (16 male and 16 female) divide as following:

1. Control group: 4 males and 4 females were injected intraperitoneally with normal saline served as control group.
2. G1: 4 males and 4 females were injected intraperitoneally with 0.1 ml of GC seed extraction in dose of 5mg/kg BW.
3. G2: 4 males and 4 females were injected intraperitoneally with 0.1 ml sodium nitrate as oxidant.