

## RESEARCH NOTE

Role of *Curculigo orchioides* Gaertn in male albino rats

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The rhizomes of *Curculigo orchioides* Gaertn. (Amaryllidaceae) are described in Ayurveda as a Vajikarana Rasayana. Rasayana is a unique concept of Ayurveda which means vital nourishment (Rasa + Ayana) representing a holistic approach, responsible for preventive aspects against ageing as well as curative aspects against diseases. The plant is reported to possess estrogenic, pendiculatiory, hepatoprotective, immunostimulant and antioxidant activities (Vijayanarayana *et al.*, 2007).

Chronic ethanol abuse causes testicular atrophy and male infertility in alcoholic men. It causes impaired testosterone production; shrinkage of the

The animals were divided in three groups of 5 male rats each. Group I animals served as control and received only vehicle *i.e.* 1 ml of sucrose solution (isocaloric diet). Group II were treated with ethanolic extract of *Curculigo orchioides* Gaertn (100 mg/kg). Group III animals were treated with ethanol alone (1 ml/kg) orally for 120 days. Total lipids (Frings *et al.*, 1972) and phospholipids (Fiske and Subbarow, 1925; Marinetti, 1962) were analyzed in the testes of rats. Results are expressed as mean  $\pm$  SD. The significance of the data was evaluated using student t-test.

Ethanol enhances apoptosis through reduced total lipids and phospholipids (Table 1). The testes of rats fed with an

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**Table 1 : Effect of ethanol and *Curculigo orchioides* on total lipids and phospholipids in testes of male rats**

Group	Total lipid ( $\mu\text{g/ml}$ )	Total phospholipid ( $\mu\text{g/ml}$ )
Control (C)	52 $\pm$ 3	50 $\pm$ 3
Ethanol treated (E)	39 $\pm$ 2	43 $\pm$ 2
Ethanol + <i>Curculigo orchioides</i> (EP)	a	A
	50 $\pm$ 3	47 $\pm$ 2

Each value is Mean  $\pm$  SEM of five animals vs Ethanol + *Curculigo orchioides* (EP)

a = p < 0.01 : Ethanol treated (E)

testes; reduced sperm counts, abnormal sperm shapes and altered sperm motility (Maneesh *et al.*, 2005).

Rhizomes of *Curculigo orchioides* Gaertn were collected from IMCOPS (Indian Medicinal Co-operative Society), Chennai, and taxonomically identified at the Department of Plant Science, K.M.C.P.G.S. Puducherry. The dried powdered rhizomes were defatted by extraction with petroleum ether (60-80°C). The defatted plant material was then extracted with ethanol (95%), dried under vacuum (4.08% w/v).

ethanol and *Curculigo orchioides* enhanced the level of total lipids and phospholipids, since, it is rich in palmitic, oleic, linolenic, linoleic, arachidic and benenic acids (Joy *et al.*, 2004). *Curculigo orchioides* provides an alternative medicine for the treatment of infertility due to reduced spermatogenesis.

**Key words :** Albino rats,  
*Curculigo orchioides*,  
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