

2nd International Conference and Exhibition on Pharmacognosy, Phytochemistry & Natural Products

August 25-27, 2014 DoubleTree by Hilton Beijing, China

Curculigo orchioides ameliorate deltamethrin induced male sterility by upregulating activity of pituitary gonadal hormones and steroidogenic enzymes

Poonam Sharma, Rambir Singh and Imran Khan
Bundelkhand University, India

Curculigo orchioides (CO) is used as a male sexual tonic in Ayurvedic system of medicine. Male infertility refers to the inability of a male to establish pregnancy in a fertile female. Decrease in sperm number, motility and increase in structural abnormalities in sperm adversely affects male fertility. Exposure to environmental toxicants including pesticides is a proven factor in impairment of male reproductive system and infertility. Deltamethrin (Del) is a synthetic pyrethroid used extensively in household insect and pest control. Reports of deltamethrin toxicity on testosterone biosynthesis are not available. The aim of study was to assess the efficacy of CO on deltamethrin induced toxicity on steroidogenesis in male Wistar rats with a focus on pituitary gonadal hormones and steroidogenic enzymes 3 β HSD and 17 β HSD. Forty two male Wistar rats were divided into seven groups of six rats each. Del and CO were given to rats orally by gavaging for 60 days. Group I was taken as control, group II exposed to Del (2 mg/kg bw), group III CO (100 mg/kg bw), group IV CO (200 mg/kg bw), group V Del treated with CO (100 mg/kg bw), group VI Del treated with CO (200 mg/kg bw). In group VII, rats were exposed to Del for 60 days and allowed to metabolize Del for 60 days. Del administration caused decrease in reproductive organs weight, sperm count, sperm motility, steroidogenic enzymes (3-beta HSD and 17-beta HSD), reproductive hormones (T, LH, FSH), and increased in sperm abnormalities. Treatment with different doses of CO alone and in combination with Del significantly improved fertility parameters, pituitary gonadal hormones and steroidogenic enzymes. The study showed that administration of CO has enhanced fertility in male Wistar rats by stimulating pituitary gonadal hormones and steroidogenic enzymes.

pnm245@yahoo.com