

عنوان مقاله:

Cyclopiazonic Acid Impaired Male Reproductive Structure and Altered Hormonal Statuses

محل انتشار:

بیستمین کنگره بین‌المللی بیولوژی تولید مثل و پانزدهمین کنگره بین‌المللی سلول های بنیادی (سال: 1398)

تعداد صفحات اصل مقاله: 1

نویسندگان:

F Bonyadi - *Department of Basic science, Histology section, Faculty of Vet-erinary medicine, Urmia University, Urmia, Iran*

SH Hasanzadeh - *Department of Basic science, Anatomy and Embryology Section, Faculty of Veterinary Medicine, Urmia University, Urmia, Iran*

GH Najafi - *Department of Pharmacology and Toxicology, Faculty of Phar-macy, Urmia University of Medical Sciences, Urmia, Iran*

H Malekinejad - *Department of Basic science, Histology section, Faculty of Vet-erinary medicine, Urmia University, Urmia, Iran*

خلاصه مقاله:

Background: Cyclopiazonic acid as a mycotoxin is produced by various fungi including *Aspergilla* and *penicillium* Spp. Consumption of the CPA-contaminated food and feedstuffs products raised some health concerns. In the current study we aimed to investigate the various dose level of CPA on the structure and function of testis. Materials and Methods: Forty adult male mice were randomly aliquoted into control and test groups (n=8). In control group animals did not receive any treatment. In the control-sham, animals received daily 0.05% DMSO (as the CPA solvent) intraperitoneally (i.p.). In the third, fourth and fifth groups, animals received 0.3, 0.6 and 0.12 mg/kg, BW of CPA (i.p.), respectively for 28 days. Twenty-four hours after the last treatment, all the animals were weighed. After taking the blood samples, the mice were euthanized and autopsied. Morphometric and morphological changes in the testicular tissue, testis spermatogenesis indices and testosterone level were investigated. Results: Reduction in absolute weight of the body and testicles was observed in the CPA-received groups. Serum testosterone levels showed a significant decrease ($P<0.05$) in the animals that received high and medium doses of CPA. Histomorphometric analyzes showed reduction in the number of Leydig and Sertoli cells, diameters of seminiferous tubules, thickness of epithelium of tubules and thickness of the testis capsule that was significant ($P<0.05$) in the group that received the highest dose of CPA. Tubular Differentiation Index (TDI%), Spermiogenesis Index (SI%), and Repopulation Index (RI%) showed a decrease in the CPA-received groups, which was only statistically significant ($P<0.05$) in the group received the highest dose of CPA. Changes in the pattern of spermatogenesis series cells, dissolution of seminiferous tubules, reduction of epididymal sperm, apoptosis in spermatogenesis series cells, changes in interstitial tissue were observed in experimental groups. Conclusion: Our data indicate that CPA affected negatively the structure and function of testicular tissue, suggesting its detrimental effects on male reproductive system.

کلمات کلیدی:

Cyclopiazonic Acid, Histomorphology and Histomorphometry, Mice, Mycotoxin, Testosterone

