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Poster Presentations

P-12

The ameliorating effect of hydroalcoholic extract of date palm (*Phoenix Dactilifera* L.) fruit on formaldehyde reproductive toxicity of male NMRI mice

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Background: Formaldehyde (FA) is one of the most widely used materials in industrial and sciences. Prolonged contact with FA might have harmful effects on fertility due to increasing the reactive oxygen species level. On one hand, date palm (*Phoenix Dactilifera* L.) fruit extract (DPFE) contains a high concentration of natural antioxidants that could scavenge free radicals.

Objective: The aim was to investigate the prophylactic effects of DPFE, with strong antioxidant properties, on FA-induced testicular toxicity in male mice.

Materials and Methods: Thirty-two adult NMRI male mice were randomly divided into four groups: control group (CTL; distilled water, orally, 35 days), FA group (FA; 0.25 mg/kg intraperitoneally (i.p.), 20

days), treatment group (DT+FA; DPFE, 4 mg/kg, for 35 days followed by FA administration, 0.25 mg/kg, i.p., 20 days), and date fruit extract group (DT; DPFE, 4 mg/kg, orally, 35 days). After this period, the blood collected and left epididymis and testis tissues were isolated to evaluate the sperm parameters and histological examination, respectively.

Results: The FA administration increased the sperm morphological anomalies and reduced the sperm count, viability and motility and also testosterone versus the control group ($p < 0.001$). In addition, histological studies of the testes showed that FA causes changes in the testis seminiferous tubules such as destruction of germinal epithelium and vacuolization of the tubules. The DPFE consumption before FA administration could partially ameliorate the reduced testosterone, sperm and testicular parameters due to FA.

Conclusion: The date palm fruit extract use might have discount effects on FA-induced testicular toxicity.

Key words: Formaldehyde, Date fruit, Testis, Sperm, Testosterone.

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