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The role of propolis against paclitaxel - induced oligospermia, sperm abnormality, oxidative stress and DNA damage in testes of male rats

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Paclitaxel (taxol) is one of the most powerful anticancer drugs but it possesses toxic effects on male reproductive system. Propolis, from folkloric remedy, have antioxidant, anti-inflammatory and anticancer effects. The present study established to examine the protective impact of Propolis against malformation of semen induced by taxol. Twenty-four male rats equally divided into four groups. Group I (normal control); group II, administrated Propolis alone; group III, taxol-treated group received taxol; group IV, co-administered of taxol and Propolis extract. After 4 weeks of treatment, the semen were collected and testis 24 hr after the last treatment. Sperm count, motility, viability and sperm morphology were assayed. Tissue supernatants were isolated for oxidative stress, cell energy parameters and 8-OHdG. DNA damage was evaluated using Comet assay in testes. Our results confirmed that taxolinduced significant reduction in sperm count, motility, viability and recorded marked elevation in sperm abnormalities. Also, taxol

caused increased in 8-OHdG and DNA damage versus that recorded in control group. Treatment with Propolis improving semen quality and protected testis from detrimental effects of taxol and minimizes its toxicity. In conclusions, Oral administration of Propolis modulates the toxic impact of taxol by amelioration semen quality, diminishing oxidation state, DNA damage and preserving cell energy.

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