The ameliorative effect of propolis against methoxychlor induced ovarian toxicity in rat.


Abstract:

A study was designed to evaluate ameliorative effect of propolis against methoxychlor (M XC) induced ovarian toxicity in rat. The organochlorine pesticide (M XC) is a known endocrine disruptor with estrogentic, anti-estrogenic, and anti-androgenic properties. To investigate whether chronic exposure to M X C could cause ovarian dysfunction, two groups of Sprague-Dawley adult female rats were exposed to M X C alone in a dose of 200mg/kg, twice/weekly, orally or M X C dose as previous plus propolis in a dose of 200mg/l/day, in drinking water for 10 months. Another two groups of rat were given corn oil (control) or propolis. Multiple reproductive parameters, ovarian weight, serum hormone levels, ovarian oxidative status and ovarian morphology were examined. In M X C-exposed group, there is a significant decrease in body and ovarian weight vs. control. M X C decreases serum estradiol and progesterone levels. A significant increase in the levels of lipid peroxidation was obtained while a significant decrease of the total antioxidant was recorded. Ovarian histopathology showed primary, secondary and vesicular follicles displaying an atretic morphology. Increase in the ovarian surface epithelium height accompanied with vacuolated, pyknotic oocytes were obtained. The previous toxic effects were neutralized by the administration of propolis in M X C+propolis group. The present results suggest that propolis may be effective in decreasing of M X C-induced ovarian toxicity in rat.

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