Role of Propolis in Improving Male Rat Fertility Affected with Aluminum Chloride Cytotoxicity

Alsayed Ali Mahran, Ahmed Hassan Abdel-Rahman Al-Rashidy, Ahmed Mohamed Ahmed Abd El-Mawla

Abstract:

AIM: Aluminum chloride (AlCl3) is commonly used in daily life but it can be induce reproductive toxicity. Propolis has been reported to be important antioxidant. Therefore, the present study aimed to investigate the protective effects of propolis against reproductive toxicity of aluminum chloride (AlCl3) in male rats. METHODS: Sixty male albino rats were divided into three equal groups, the first served as negative control, the second received AlCl3 (34 mg/kg bw, 1/25 LD50), the third received AlCl3 and treated with propolis (50 mg/kg bw.). Treatment was continued for 70 days. RESULTS: AlCl3 caused a decrease in body and testes weights and testosterone hormone. In addition, histological changes as damages within the seminiferous tubules and vascular degeneration of the germ cells and Sertoli cells cytoplasm were observed. On the other hand, electron microscopy study showed changes in the testis seminiferous tubules such as atrophy of the tubular membrane, mitochondria, endoplasmic reticulum, Golgi apparatus and nucleus. Our results revealed that propolis alleviated the reproductive toxic effects of AlCl3. CONCLUSION: Treatment with propolis alleviates AlCl3-associated hazards and protects the testicular tissues from AlCl3 toxicity.

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