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JOURNAL ARTICLE

Effects of diazacholesterol dihydrochloride (SC-12937), an avian antifertility agent, on rat testis

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The present study was undertaken to evaluate the effectiveness of an avian chemosterilant, 20, 25-diazacholesterol dihydrochloride (SC-12937), on the rat testis. Adult male rats were injected intraperitoneally with 10 mg (Group 1) or 30 mg (Group 2) of SC-12937/kg/d or with vehicle alone (Group 3) for 10 days, and were killed 24 hours after the last injection. A wide range of variation in the appearance of affected seminiferous tubules was observed in the testis of SC-12937-treated rats at both dose levels. This ranged from apparently normal-looking seminiferous tubules to almost completely atrophied tubules with no cells. Affected tubules exhibited intraepithelial vacuoles of varying size, multinucleated giant cells, germ cell exfoliation, and tubular atrophy. The presence of severely damaged and entirely normal seminiferous tubules adjacent to one another in the same section was noteworthy. The changes appeared to be dose-related. A greater number (34.6%) of affected tubules were observed in rats receiving 30 mg of SC-12937 compared with the ones receiving 10 mg of this compound (19.6%). The Sertoli cells also were affected by this drug and exhibited cytoplasmic vacuolation, a marked increase in the accumulation of lipid droplets and myeloid bodies. Necrotic Sertoli cells also were observed in the severely affected tubules. The possible mechanism of antispermatogenic action of SC-12937 in rats has been discussed briefly.

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