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JOURNAL ARTICLE

Morphologic and endocrine changes in the reproductive organs in rats implanted with gossypol acetate pellet in the testis

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Gossypol acetate pellets in concentrations ranging from 0.5, 1.0, 5.0, 10.0, to 20.0 mg were implanted in the testis of rats for a period up to 7 weeks. The implant was made in one testis only. In animals with a 10.0-mg implant, the germinal epithelium showed degenerative changes following the 7-week period, but spermatogonia and spermatocytes were unaffected. The effect of gossypol acetate appeared to be at the spermatid level. The electron microscopic study showed that the acrosomal membranes were disrupted. Blood testosterone and LH, but not FSH, decreased significantly (P less than 0.01). The fertility studies showed 100% infertility but no loss in libido in the 10-mg implant group. Up to the 7-week period, implants of less than 10 mg produced no significant effects on any of the parameters mentioned above. Animals with 20-mg implants had toxic symptoms. From the results in this study, it is concluded that 10.0 mg of gossypol acetate implanted in a single pellet in one testis causes antispermatogenic effects.

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