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Induction of reversible antifertility with a crude ethanol extract of *Citrullus colocynthis* Schrad fruit in male rats.

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Source

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Abstract

A crude 50% ethanol extract of *Citrullus Colocynthis* Schrad was administered orally to male albino rats for evaluation of antifertility effects. The animals were divided into five groups: group A was a vehicle-treated control group; treatment groups B, C, and D received 100 mg/kg/day *C. Colocynthis* extract for periods of 20, 40, and 60 days, respectively, and group E animals received the extract at 100 mg/kg/day for 60 days followed by 60 days of recovery. For androgenicity evaluation of the extract, the animals were divided into four groups: group F animals were castrated 30 days before the experiment to serve as controls, and group G, H, and I were subjected to castration 30 days before the experiments, followed by administration of fruit extract (100 mg/kg/day p.o.), testosterone propionate (0.01 mg/rat/alternate day s.c.), and fruit extract along with testosterone propionate, respectively, for 30 days. Significantly reduced cauda epididymis sperm motility and density, number of pups, fertility, and circulatory levels of testosterone were observed in all treatment groups. The weights of testes, epididymis, seminal vesicle, and prostate were significantly decreased in groups B, C, and D. The weights of all organs in the different groups of the androgenicity study were markedly decreased in group F when compared with group A, in group G when compared with group F, and in group I when compared with group H, and increased in group H when compared with group F. The serum testosterone levels also showed a similar pattern. The concentration of testicular cholesterol was significantly elevated, while protein, sialic acid, acid and alkaline phosphatase concentrations were decreased. The histoarchitecture of the testes showed degenerative changes in the seminiferous epithelium, arrest of spermatogenesis at the secondary spermatocyte stage, cytolysis, and the lumen filled with eosinophilic material. Histometric parameters except Sertoli cell nuclear area and number of round spermatids showed marked alterations. All altered parameters restored to normal in group E. No changes were observed in body weight, litter size, hematology, and serum biochemistry. In conclusion, a 50% ethanol extract of *C. Colocynthis* showed an antiandrogenic nature, thereby reduced reversible infertility in male albino rats.

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