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Effect of 2-Bromopropane on the Spermatogenesis of Sprague-Dawley Male Rats.

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2-BP, the causative chemical for reproductive toxicity in an electronic company in Korea, caused azoospermia and oligospermia among male workers and severe anemia accompanied by amenorrhea among female workers. To clarify the effect of spermatogenesis of rat 2-bromopropane (2-BP) has been investigated. 2-BP was tested through 28 days of repeated dose experiments in male Sprague-Dawley rats. Ten rats were allocated to each treatment group. Vehicle control olive oil, 125 mg, 250 mg, and 500 mg/kg body weight of 2-BP were injected into intraperitoneum daily for 28 days. Sertoli cells indices (SCI) per tubule of rats had a tendency to decrease depending on the dose of 2-BP, showing 30.2 for the control group, 26.9 for the 125 mg/kg group, 21.0 for the 250 mg/kg group and 11.8 for the 500 mg/kg group. SCI of 125 mg/kg group showed a stage specific toxicity at the stage I-III and VII. The percentage of germ cells versus control decreased depending on the dose of 2-BP, but the elongate spermatids scarcely varied at all stages. The histopathology of the testes treated with 250 mg/kg and 500 mg/kg of 2-BP showed a typical patch appearance with severely depleted atrophic tubules, exhibiting germ cell degeneration in the seminiferous tubules, and an apparent increase in interstitial Leydig cells.