

Sexual differences in the toxicity of procaine in rats

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The toxicity of procaine has been found to be markedly different in the male and female albino rat. The convulsant dose-50 of procaine, injected intraperitoneally (i.p.), was significantly higher in the male rat. It decreased after gonadectomy, but a sex difference in the values obtained still persisted. The mean lethal dose of procaine injected i.p. was also significantly higher in the male. After gonadectomy the value did not change in the females but it decreased in the males. No significant differences in the mean lethal doses in both sexes of rats under the age of 60 days were observed. Testosterone did not significantly change the resistance to procaine toxicity in gonadectomized male and female rats. The plasma levels of procaine at the moment of death were of the same order in normal and gonadectomized rats of both sexes. The procainesterase activity of the liver was considerably higher in normal adult males as compared to females. This difference was reduced after gonadectomy.