

Effects of Ciprofloxacin on testis apoptosis and sperm parameters in rat

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AIMS: Ciprofloxacin is commonly prescribed antibiotics in treatment of genitourinary tract infection. The aim of this study was to investigate the effects of Ciprofloxacin on quality and quantity of sperm production and testis apoptosis in rat.

METHODS: The twenty male Wistar rats were selected and randomly divided into two groups; control (n=10) and experimental (n=10). The experimental group was orally received 12.5 mg/kg Ciprofloxacin daily for 60 days and the control group just received water and food. Rats were then killed and sperm removed from cauda epididymis and analyzed for sperm motility, morphology, and viability. Testis tissues were also removed and prepared for Terminal deoxynucleotidyl transferase-mediated dUDP nick end labeling of DNA (TUNEL) assay for detection of apoptosis.

RESULTS: Results showed that Ciprofloxacin significantly decreased the sperm concentration, motility and viability ($P<0.05$) but had no effect on sperm morphology in compared with control group. The apoptotic cells were significantly increased in experimental group (15.5 ± 10.17) as compared with control group (3 ± 2.41) ($P<0.01$).

CONCLUSION: In clinical forensic toxicology, it should be noted that Ciprofloxacin could be impaired sperm production and function.

KEYWORDS: *Ciprofloxacin, Testis, Apoptosis, Rat*

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