

Dose-dependent reproductive toxicity of nimodipine in male rats Corresponding Author

Abstract

Objective: Nimodipine is a calcium channel blocker that inhibits calcium ion transfer into cells. It has greater effects on cerebral arteries due to high lipophilicity and used for cerebral hemorrhage. In this study it was aimed to investigate the dose-dependent effect of nimodipine on the testicular tissue of male rats.

Methods: Twenty four male rats were allocated into four groups (6 rats in each); first group served as control, the others received 20, 40, 80 mg/kg/day of nimodipine, respectively, for 30 days. At day 31, the animals were sacrificed, the testicular tissues were removed, and sperm was collected from epididymis and prepared for analysis.

Results: Significant and dose-dependent decrease in sperm count and motility associated with morphological changes were reported in addition to progressive damage in the epididymis and testicular tissue architecture of treated animals compared to controls.

Conclusion: Nimodipine decreases sperms count and activity in a dose-dependent pattern, associated with disarrangement testicular structural elements of male rats; this confirms the class effect of calcium channel blockers in this respect.