

## عنوان مقاله:

Early and late effects of Ibuprofen on mouse sperm parameters, chromatin condensation, and DNA integrity in mice

## محل انتشار:

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## نویسندگان:

Fatemeh Roodbari - Department of Biology, Faculty of Basic Sciences, University of Mazandaran, Sari, Iran

Nahid Abedi - Department of Biology, Faculty of Basic Sciences, University of Mazandaran, Sari, Iran

Ali Reza Talebi - Department of Biology and Anatomical Sciences, Research and Clinical Center for Infertility, Shahid Sadoughi University of Medical Sciences, Yazd, Iran

## خلاصه مقاله:

**Background:** There are few studies indicating the detrimental effects of ibuprofen on sperm fertility potential and DNA integrity. **Objective:** To determine the effects of ibuprofen on sperm parameters, chromatin condensation and DNA integrity of mice. **Materials and Methods:** In this experimental study, 36 adult male mice with average weight 37 gr were divided into three groups, including control (group I, n=12), normal dosage of ibuprofen (group II, n=12) and high dosage (group III, n=12). Ibuprofen with different doses was dissolved in daily water of animals. After 35, 70 and 105 days, the cauda epididymis of mice were cut and incubated in Ham's F10 media. Sperm samples were analyzed for parameters (motility, morphology and count), DNA integrity (SCD test) and chromatin condensation (chromomycin A3 and Aniline blue staining). **Results:** After 35 days, in addition to above mentioned sperm parameters, all of the treated mice showed statistically significant increase in spermatozoa with immature chromatin ( $P < 0.05$ ). However, after 70 days, the rate of sperm DNA fragmentation assessed by SCD was increased in group II ( $66.5 \pm 0.7$ ) and the percentage of immature spermatozoa (AB+ and CMA3+) was higher in group III ( $77.5 \pm 0.7$  and  $49.5 \pm 6.3$  respectively) than other groups. After 105 days, the AB+ spermatozoa were increased in both normal dose and high dose groups. **Conclusion:** Ibuprofen may cause a significant reduction in sperm parameters and sperm chromatin/DNA integrity in mice. It should be noted that these deleterious effects are dose-dependent and can be seen in early and .late stage of drug treatments

## کلمات کلیدی:

Ibuprofen, Sperm, DNA, Chromatin, Mice

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