



ID: 417

## The effect of sodium fluoride on the reproductive system

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### Abstract

Previous studies have shown that daily exposure to sodium fluoride (NaF) has a direct effect on the reproductive organs, which in high doses and over the long term can lead to infertility associated with increased oxidative stress and changes in enzyme activity. In the present study, we tested the effects of this toxic substance on selected adult male rat genitalia and sperm count and morphology for just one month. In the present study, we investigated how the effect of this toxic substance, for only one month, would be on some reproductive organs of adult male white rats, as well as on the number and morphology of spermatozoa. The control group of male rats did not show any pathological changes in the normal structure of the tissues of the reproductive system. Twenty male rats were used and divided into two groups. The first group was used as an untreated (normal) control. The second group received NaF at a concentration of 150 ppm via mineral drinking water for a period of thirty days every day. The animals weights and reproductive organs were calculated at the end of the experiment, and showed no significant difference in weight. The results showed, in the second group, atrophy and a stop of growth in the genital organs, as well as an almost total destruction of the connective tissue with deformation and decrease of the number of spermatozoids. The combined results indicate that daily exposure to sodium fluoride leaves side effects on the tissue of the genital tract of rats, which leads to sterility, even if it is in a very small amount, which leads us to search more for solutions that treat this damage.

**Key Words:** Sodium fluoride 1, Reproductive organs 2, Spermatozoa 3, Oxidative stress 4, Infertility 5

