

## Hormonal and sperm changes in rats treated with oxycodone hydrochloride

Oxycodone hydrochloride is a semi-synthetic product derived from thebaine. It is an alkaloid derived from poppy plants. It is indicated in cases of intense pain. These treatments are not without side effects such as sexual behavior disorders. Data on the use of oxycodone hydrochloride on reproductive functions are limited, including its effect on fertility.

General objective : To evaluate the effects of oxycodone hydrochloride on hormonal and sperm parameters in male Wistar rats.

Materials and methods: A total of 12 male Wistar rats weighing between 100 and 300 g were selected. We formed three groups each comprising four male wistar rats : (1) control group having consumed distilled water, (2) group having received 5 mg/kg of oxycodone hydrochloride, and (3) group having received 10 mg /kg of oxycodone hydrochloride. The animals were treated for thirty days by gavage. At the end of the treatment, the animals in each group were anesthetized followed by blood sampling (retro orbital) and organs after dissection. Then directed towards an exploration of hormonal and sperm parameters.

Results : Oxycodone hydrochloride significantly modifies the weight of the testicles, prostate and epididymis. The results show necrospermia with a significant difference in the batches treated with oxycodone hydrochloride at the respective doses. And also, the presence of oligospermia, asthenospermia and teratospermia in the batches treated at the respective doses. Our results reveal a significant decrease in testosterone levels.

Conclusion : Prolonged administration of oxycodone hydrochloride at doses of 5 and 10 mg/kg to male Wistar rats modifies testicular weight, leads to depletion of hormonal and sperm parameters.

**Keywords:** FSH ; LH ; Testosterone; Spermatoc; Oxycodone hydrochloride ; fertility ; Rats