

## EFFECTS OF REPEATED USE OF OXANDROLONE IN ORGANS OF ELDERLY WISTAR RATS

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**INTRODUCTION:** Anabolic steroids are synthetic derivatives of testosterone that mimic its activity in various tissues of the human body. Oxandrolone, one of the main representatives of this class, exhibits potent anabolic activity and is widely used in clinical practice. Investigating its effects in the treatment of age-related conditions is relevant given the high prevalence of sarcopenia in elderly women and the negative impact of this condition on quality of life. While associated with benefits in preserving muscle mass, inappropriate use of this drug may lead to hepatic, renal, and reproductive dysfunctions. **OBJECTIVE:** To evaluate the histopathological effects of repeated oxandrolone administration on the liver, kidneys, and adrenal gland of aged Wistar rats. **METHODS:** Female Wistar rats, aged 20 months, were randomly divided into oxandrolone and vehicle (corn oil) groups (n=12/group). The administered dose was 0.05 mg/kg/day, equivalent to the recommended human dose for the prevention of sarcopenia (10 mg/day). Treatments were administered by gavage, once daily at the same time, for 28 days. Throughout the entire experiment and data analysis, the investigators remained blinded to avoid bias. On the 29th day of the experiment, animals were anesthetized and euthanized by exsanguination for tissue collection. Liver, kidneys, and adrenal glands were removed, cleaned, and fixed in buffered formalin for subsequent histopathological analysis. The slides were examined by optical microscopy using a standardized scoring system. Data were analyzed by Student's T-test, with a significance level set at  $p < 0.05$ . **RESULTS:** No differences were observed in the presence of hydropic, hyaline, or fatty degeneration, vacuolization, inflammatory infiltrates, congestion, hemorrhage, or necrosis in the liver, kidneys, and adrenal glands of the aged rats. Moreover, the analysis of total histopathological scores did not show differences between experimental groups. **CONCLUSION:** Oxandrolone treatment did not induce histopathological alterations in the tissues analyzed.

**Keywords:** Anabolic steroids; sarcopenia; aging.

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