

# EVALUATION OF HAEMATOLOGICAL AND BIOCHEMICAL ALTERATIONS IN AGED FEMALE RATS TREATED WITH OXANDROLONE

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**Introduction:** Oxandrolone is a synthetic anabolic steroid derived from dihydrotestosterone, used therapeutically in conditions like Turner syndrome, alcoholic hepatitis, and muscle-wasting disorders such as sarcopenia. Women more frequently resort to this substance aiming for muscle mass gain, due to the perception that its use carries fewer risks. However, the literature lacks sufficient data regarding the health risks associated with oxandrolone use.

**Objective:** Therefore, this study aims to evaluate the anabolic effects and toxicity of oxandrolone in aged female rats through haematological and biochemical analyses. **Methodology:** An oral suspension of oxandrolone in an oily vehicle (corn oil) at a concentration of 0.025 mg/mL was used. Aged rats (18 months) received a dose of 0.05 mg/kg/day, orally, corresponding to the dose recommended for humans for sarcopenia prevention (10 mg/day), for 28 days, once daily. Control groups received only the oily vehicle. Complete blood counts were performed using an automated analyzer (Mindray, BC-5380), and biochemical markers were quantified using commercial kits (Bioclin®, MG, Brazil) in an automated device (BS-120 Mindray). **Results:** The biochemical analysis showed no alterations in creatinine, urea, ALT, AST, LDH, GGT, CK-MB, total proteins, glucose, total cholesterol, triglycerides, and lactate levels, whereas the hematological analysis revealed a condition of polycythemia. **Conclusion:** These results highlight the necessity of strict medical monitoring during the use of this substance. Despite the stability of the biochemical parameters, the hematological alterations suggest possible effects of oxandrolone on erythropoiesis. These findings reinforce the importance of further studies to comprehensively evaluate the impact of oxandrolone on other physiological parameters, thereby expanding the safety profile of this steroid.

**Keywords:** Oxandrolone; biochemical; haematological; anemia