ASSESSMENT OF OXIDATIVE STRESS IN OXANDROLONE-TREATED AGED FEMALE RATS

Luana de Oliveira Dalpian, Nicolas Guimarães, Mariana Sperotto, Solange Garcia, Bruno Dutra Arbo, Marcelo Dutra Arbo

Faculdade de Farmácia, Universidade Federal do Rio Grande Do Sul (UFRGS), Porto Alegre - RS, Brazil.

Anabolic steroids (AS) are synthetic compounds with anabolic and androgenic properties, commonly used both therapeutically and to enhance physical performance. Oxandrolone is among the most widely used AS due to its strong anabolic effects and low androgenic activity. Clinically, it is prescribed for conditions like Turner syndrome, malnutrition, and burns, and is often used off-label to treat sarcopenia in elderly women. However, data on the safety of long-term use in aging populations remain limited. This study aimed to evaluate the potential toxicity of oxandrolone in apleen and liver of aged female rats. Animals received oxandrolone (0.05 mg/kg/day) for 28 days by oral gavage. On the29th day, they were euthanized, and tissues were collected for analysis. Oxidative stress was assessed via lipid peroxidation and non-protein total thiol levels. The results showed no significant alterations in the evaluated parameters in both, spleen and liver, suggesting that oxandrolone, at the tested dose and treatment duration, did not induce relevant toxicological effects in aged female rats. However, other tissues and oxidative stress parameters will be evaluated. This study contributes to a better understanding of oxandrolone's safety profile and supports its cautious use in elderly populations, such as women with sarcopenia.