EFFECTS OF OXANDROLONE ON OXIDATIVE STRESS MARKERS IN YOUNG RATS SUBJECTED TO A STRENGTH TRAINING PROTOCOL

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INTRODUCTION: Oxandrolone is a synthetic anabolic androgenic steroid with high anabolic activity, low androgenic activity, and significant resistance to hepatic metabolism. For this reason, it is widely used, particularly by female athletes seeking to enhance muscle strength and physical performance. However, despite its frequent use, controversies persist in the literature regarding its potential risks and benefits when associated with physical exercise. **OBJECTIVE**: To evaluate the effects of oxandrolone on oxidative stress markers in young Wistar rats subjected to an anaerobic training protocol. **METHODS**: Female Wistar rats (aged 60 days) were randomly divided into two groups: oxandrolone (1.77 mg/kg/day) and vehicle (corn oil) (n=12/group). Treatments were administered via gavage once daily, 30 minutes prior to strength training. The training protocol consisted of six ascents on an inclined ladder, with two ascents for each workload (50%, 75%, and 100% of each animal's maximum load capacity). Training was performed three times a week for 28 days, with daily monitoring of the estrous cycle. Throughout the experiment and data analysis, investigators remained blinded to avoid bias. On day 29, the animals were anesthetized and subsequently euthanized by exsanguination. **RESULTS**: An increase in TBARS levels in hepatic tissue was observed, with no significant changes in lipid peroxidation in plasma, antioxidant enzyme activity, non-protein total thiol levels, or the activity of mitochondrial respiratory chain complexes in muscle and hepatic tissues. **CONCLUSION**: Repeated administration of oxandrolone increased lipoperoxidation in the liver, without affecting the other oxidative markers evaluated.

Keywords: Anabolic Androgenic Steroids; Oxandrolone; Exercise; Oxidative Stress.

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