

EFFECTS OF TRAPIDIL IN MONOCROTALINE-INDUCED PULMONARY ARTERIAL HYPERTENSION IN RATS

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Introduction: Pulmonary arterial hypertension (PAH) is a progressive disease characterized by elevated pulmonary arterial pressure and pulmonary vascular resistance, leading to right ventricular failure and death. PAH's disturbances between vasodilators and vasoconstrictors and induction of inflammatory response are consequences aggravated by redox imbalance present in the disease. Treatments that aim not only the outcomes, but also act as antioxidants may have better efficacy. Trapidil is an antiplatelet, antimitogenic and phosphodiesterase inhibitor drug currently used in clinics to prevent restenosis. Recent studies also describe Trapidil's capacity to suppress inflammatory responses, inhibit metalloproteinases activation and improve redox balance by decreasing lipoperoxidation and superoxide formation. **Objective:** To verify the effect of Trapidil in the pulmonary hypertension monocrotaline-induced model, evaluating echocardiographic and haemodynamics parameters. **Material and Methods:** UFRGS Ethics Committee in Animal Experimentation approved this study (code 28515). Rats were divided into four groups: Control, Control + Trapidil, Monocrotaline and Monocrotaline + Trapidil. PAH was induced by a single intraperitoneal injection of monocrotaline 60 mg/kg at day 0. Trapidil treatment started at day 7 and a single injection of 2.5 mg/kg was administrated once day until day 14, when the animals were euthanized after echocardiography and right ventricle catheterism. Statistical analysis using Two-way ANOVA with Tukey's post hoc was carried. **Results:** Monocrotaline animals exhibited elevated diastolic (2.36 ± 0.21 mmHg) and systolic (43.5 ± 7.3 mmHg) pressures in RV as well as increased diastolic (0.290 ± 0.029 cm) and systolic (0.242 ± 0.045 cm) diameters. Trapidil attenuated diastolic pressure (0.64 ± 0.34 mmHg) in RV and reduced RV diastolic ($0.266 \pm 0,034$ cm) and systolic ($0,202 \pm 0,024$ cm) diameters in monocrotaline rats. **Conclusion:** Trapidil seems to improve morphofunctional parameters in PAH. Its antioxidant and anti-inflammatory described properties still need to be checked, what may turn it in a promisor drug in PAH treatment.