

**Natureza do trabalho:** Resumo

**TÍTULO**

*EVALUATION OF THE ACUTE MECHANICAL ANTIHYPERALGESIC EFFECTS OF MYRTENOL, A PLANT-DERIVED MONOTERPENE ALCOHOL, IN RATS*

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**RESUMO**

**Introduction:** natural compounds extracted from plants are widely studied and tested by the pharmaceutical industry, seeking medical applications. Monoterpenes, such as (-) - myrtenol (MYR) are among the most investigated, since its chemical structure and biological effects<sup>1</sup>. Studies show that the MYR has sedative<sup>2</sup>, anxiolytic<sup>1</sup> and anti-inflammatory<sup>3</sup>. In addition, to modify the function of the GABA A receptor in *Xenopus* oocyte and embryonic human cells<sup>4</sup>. However, research exploring the pharmacological action on the pain is still needed. **Objective:** this work aimed to verify the acute mechanical antihyperalgesic action of 3, 30 and 100 mg/kg of (-)- myrtenol in spared nerve injury (SNI) model of neuropathic pain in rats. **Materials and Methods:** Male *Wistar* rats were submitted to surgery to induce SNI in the terminal branches of the sciatic nerve - common peroneal and tibial - were sectioned, maintaining only the sural nerve intact. Five days after surgery, the animals were divided into: SNI group (CONTROL, received saline, gavage) and treated groups (receiving MYRTENOL (MYR) at a dose of 3, 30 or 100 mg / kg, by oral route). An additional group of animals (SHAM) received a sham surgery where the nerve was exposed but not manipulated. All animals were evaluated for sensitivity to pain by von Frey test basal time and in the 1st, 2nd and 4th hour after administration of saline solution or MYR. **Results:** the SNI surgery induced marked and persistent mechanical hypersensitivity. After oral administration, the MYR has been able to significantly decrease the mechanical sensitivity in rats subjected to SNI surgery. The effect was observed in the two doses (30 and 100 mg/kg), at 1st hour. In the 2nd and 4th hours, in two doses (30 and 100 mg/kg), the effect was shown to be decreased and the results were no longer statistically significant when compared to the control. **Discussion and Conclusion:** the results of this study show that when administered orally, the MYR cause antihyperalgesic effect in rats previously submitted to SNI surgery. These data associated with data in the literature suggest that MYR modulator has a physiological role in nociceptive response, interfering events involving pain signaling pathways.

**References:**

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