

**Natureza do trabalho:** Resumo

**TÍTULO**

*INTRATHECAL INJECTION OF GP120 (HIV COMPONENT) IN THE INDUCTION OF PAIN – REVIEW AND STANDARDIZATION OF THE TECHNIQUE IN MICE*

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**RESUMO**

**Introduction:** Sensory neuropathy, which mainly affects the peripheral nerves, is a very common neurological complication of HIV infection, affecting more than thirty percent of patients with AIDS. Gp120 interacts with chemokines present in neurons, astrocytes and microglia which may contribute to the development of neuropathy. Evidence has demonstrated that activation of glial cells and the release of inflammatory cytokines play a role in the induction and maintenance of neuropathic pain and that the intrathecal administration of gp120 causes mechanical hyperalgesia associated with increased release of pro-inflammatory cytokines, as IL-1 $\beta$ , TNF and IL-6. **Objectives:** In order to standardize the technique, the present work has investigated the hyperalgesic effects of gp120 when administered intrathecally in mice. **Material and Methods:** Male Swiss mice (n=6) received three different concentrations of gp120 (5, 50 and 500ng) and sterile saline as control intrathecally. Mechanical sensitivity was measured with an electronic Von Frey apparatus after 1, 2, 3 and 4 hours of the injections. **Results:** When administered intrathecally, gp120 significantly decreased mechanical sensitivity at all doses after 2 hours of the injection and at the dose of 50ng after 3 hours of the injection when compared to control group in mice. Maximum inhibition was 69 $\pm$ 5% for the dose of 5ng after 2 hours of and 44 $\pm$ 10% at the dose of 50ng after 3 hours of the injection. **Discussion and Conclusion:** The present study demonstrated that intrathecal injection of gp120 causes mechanical hyperalgesia with a maximum effect after 2 hours at a dose of 5ng using Von Frey apparatus. Effects may be produced by the interaction of gp120 with chemokines inside neuronal cells. This animal model is important to investigate the mechanisms involved in sensory neuropathy in HIV patients, which may lead to further treatments.