Livro de Resumos

I Simpósio Gaúcho de

Farmacologia

07 a 09 de setembro de 2016

Porto Alegre, RS, Brasil

I Simpósio Gaúcho de Farmacologia

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Comissão Organizadora:

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Comissão Científica:

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significant increase ($p<0.05$) between the control group and SFB 10%, control group and 50µM, control group and 100µM. When treated with ATP we observed significant increase between the control group and SFB 10%, control group and ATP 50µM or 100µM; when the cells were treated with UTP we observed significant increase between the control group and UTP 100µM. The results of the experiments conducted with cell line OE33 treated with ADP or with ATP showed similar pattern of cell growth when this lineage was treated with ADP 50µM or 100µM; ATP50µM or 100µM and with UTP 50µM or 100µM. **Conclusion**: In summary, extracellular nucleotides (ADP, ATP, UTP) can stimulate cell proliferation in both cell lines. **Financial support**: CAPES, INCA, CNPq.

ALTERATIONS IN BDNF AND NGF BRAINSTEM LEVELS OF RATS SUBMITTED TO OROFACIAL PAIN MODELS TREATED WITH MELATONIN

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Introduction: orofacial pain comprises persistent pain in the TMJ and masticatory muscles. Inflammatory processes contribute to the induction and/or maintenance of pain that is modulated by different neuromodulators as brain derived neurotrophic factor (BDNF) that plays an important role regulating inflammatory pain thresholds and secondary hyperalgesia. Similarly, the nerve growth factor (NGF) is involved in the neuronal plasticity linked to chronic pain. Melatonin has been used in the treatment of inflammatory pain and its effects could be peripheral and central. The aim of this study was to evaluate the effect of acute administration of melatonin upon BDNF and NGF central levels in a model of chronic orofacial pain. **Methods:** 33 male, Sprague-Dawley rats were divided into 6 groups: Control (not manipulated); Sham Pain+Vehicle (received saline solution into TMJ+melatonin vehicle); Sham Pain+Melatonin (received saline solution into TMJ+ melatonin); Pain

(received CFA-50μL into TMJ, no treatment); Pain+Vehicle (received CFA into TMJ+melatonin vehicle); Pain+Melatonin (received CFA into TMJ + melatonin). Rats in the melatonin group were treated with a single intraperitoneal injection of melatonin (50 mg/kg, final solution 50 mg/ml). The control group received vehicle (1% ethanol in saline). Treatment was administered 7 days after CFA injection. Biochemical analysis was made by ELISA method. Statistical analysis was performed by One-way ANOVA/SNK. This study was approved by Ethical Committee of Animal Use of Clinics Hospital of Porto Alegre (GPPG: 12-0104). **Results:** the animals exposed to pain model showed an increase in the BDNF levels, which was reversed by melatonin at 7 days after the administration of acute dose, although this effect was also observed in the vehicle group (One-way ANOVA/SNK, $F(5,30)=27.35$, $P<0.01$). However, it is important to highlight that in the control/sham groups this effect it was not observed. Thus, the effects of melatonin and its vehicle in the BDNF brainstem levels were state-dependent, since the effects were different between SHAM and orofacial pain animals that received vehicle or melatonin treatment. The NGF levels increased in the orofacial pain groups, independently of received treatment, similar effect was observed in the Sham animals treated with melatonin or vehicle, suggesting vehicle effect (one-way ANOVA/SNK, $F(5,26)=18.01$, $P<0.01$). **Conclusion:** although melatonin have showed analgesic effect (data not showed) our analysis showed alterations in the neuromodulators levels induced by orofacial pain and melatonin vehicle (ethanol 1%).The effects induced by vehicle was an interesting result since demonstrated that a single ethanol administration was able to alters neuromodulators seven days after the injection. At the same time that this vehicle effect was a limitation for our study, it showed an interesting pharmacological data which should be considered when the researchers have to choose the vehicle that should be used in their studies, and in this way avoiding possible biases in their research.

OBESIDADE ALTERA NÍVEIS DE BDNF EM HIPOCAMPO E A MEMÓRIA DE LONGO PRAZO EM RATOS WISTAR

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