

## THE EFFECTS OF SINGLE AND MULTIPLE CURCUMIN DOSES ON ORO-FACIAL PAIN IN MICE

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**Introduction:** curcumin protects from mitochondrial dysfunction and modulates endogenous antioxidant enzymes, by scavenging the ROS and NO-based radicals. The aim of our study was to assess if on the formalin-induced orofacial pain (OFP) in mice a single dose has the same efficiency as sub chronic administration.

**Materials and methods:** 32 mice were divided into four groups group C<sub>ac</sub> received one dose curcumin, group C<sub>2w</sub> received curcumin daily for 2 weeks and two groups served as control and received an equal volume of olive oil (Group O<sub>ac</sub> and O<sub>2w</sub>). The curcumin (120 mg/kg b.w, dissolved in oil) and the oil were administrated by gastric gavage. After 2h in acute groups respectively 24h in subchronic groups 20 $\mu$ L formalin were injected into the whisker pad and the time mice spent rubbing/liking the injected area was recorded. The results for each phase was expressed as percentage of pain inhibition (PI). Results: For both OFP phases a single dose of curcumin had a strong analgesic effect when compared with control group (p0.01). PI was 79% (phase I) respectively 51% (phase II). Subchronic treatment maintained curcumin analgesic effect for both phases (p=0.01 respectively p0.01) with a PI of 34% respectively 45%. Conclusions: our data demonstrates that curcumin has a strong analgesic effect on OFP induced by formalin but the long term treatment does not improve its analgesic propriety.

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