THE ANTINOCICEPTIVE EFFECTS OF VANILLIN

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Introduction: “Vanillin” is traditionally obtained from the pod of a tropical orchid which is called *Vanilla planifolia*, it has antimicrobial properties, as well as it is an antioxidant and it is potentially antimutagenic (Maurya e cols., 2007). Objective: To study the antinociceptive effect of vanillin.

Material and Methods: Formalin-induced nociception. The animals were given vanillin (100 mg/Kg body weight, p.o.), piroxicam (30 mg/kg body weight, p.o., reference anti-inflammatory) or with the vehicle (positive control). The procedure we used was essentially the same as the one described previously (Hunskaar & Hole, 1987). Animals received 20 μl of a 2.5% formalin solution (0.92%) formaldehyde, (in saline) in the ventral surface of the right hind paw (i.pl). Animals were observed from 0 to 5 min (neurogenic phase) and from 15 to 30 min (inflammatory phase) and the time that they spent licking the inject paw was recorded and considered as indicative of nociception.

Results and discussion:

**Neurogenic Phase**

![Graph showing time (s) in response to different treatments]
In this model involves inflammatory mediators including arachidonic acid products (PGE2), histamine, serotonin, neuropeptides, cytokines, NO, nerve growth, leukotrienes and others. Vanillin treatment was only capable of significantly diminishing the nociceptive response in the second phase of the formalin test. This result is additional evidence that the antinociceptive effects of vanillin are related with the diminishment of these inflammatory mediators release in second phase (inflammatory phase). In our results we observed that the vanillin not alteration antinociceptive effect in neurogenic phase, while in inflammatory phase the vanillin was capable diminishing in 75% the nociception in mice. This results is similar with obtained with the piroxicam. Conclusion: Vanillin treatment was only capable of significantly diminishing the nociceptive response in the second phase of the formalin test. Its evidence that the antinociceptive effects of vanillin are related with the diminishment of the inflammatory mediators release.

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Key words: Formalin; Nociception; Vanillin.

References Bibliographical: