

## The analgesic effects of clemastine and its comparison to diclofenac towards hot-plate test in male mice

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**Background and Aims:** Inflammatory responses management is so important in preventing cell necrosis and death due to some chemical as well as pathological injuries. While the related therapies have diverse adverse effects, there is an enormous effort in discovering novel analgesic synthetic or natural agents with fewer side effects. Studies on this field remain a very active area since some of current data are still uncertain. In this study, hotplate method used to determine the analgesic effects of a first generation anti histamine, clemastine, in comparison with a nonselective COX2 inhibitor, diclofenac, as a standard treatment.

**Methods:** Three different doses of both clemastine and diclofenac, diluted in sodium chloride, were administered intra-peritoneally to male Syrian mice (30-35 g), while sodium chloride solution injected as the vehicle in order to omit the possible vehicle effect. Mice were placed on a standard hot-plate and the latency times were recorded separately for each mouse.

**Results:** The results of this study indicate that, clemastine was significantly effective ( $P < 0.05$ ) in augmenting the pain threshold in comparison with the negative control group which received no treatments. Besides it was as effective as diclofenac ( $P > 0.05$ ) in this process. This effect might be because of some novel interactions between histamine release and pain feelings which a small part of it dealing with primary inflammatory responses has been proved recently.

**Conclusions:** we can suggest the antihistamine drug, clemastine, as an analgesic and possible anti inflammatory agent, which the later claim needs more study.

**Keywords:** Analgesic effects; Clemastine; Diclofenac; Hot plate test