p-Hydroxyacetophenone inhibits the expression of NF-κB in λ-carrageenan induced inflammation in mice.

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ABSTRACT

Background. The aim of this study was to investigate possible analgesic and anti-inflammatory mechanisms of the p-Hydroxyacetophenone (HPA).

Objectives. This study hopes to find the analgesic and anti-inflammatory activities of HPA and provided evidence to support its therapeutic use in inflammatory diseases.

Methods. The analgesic effect was determined using acetic acid-induced writhing response and formalin test. The anti-inflammatory activity was evaluated by λ-carrageenan-induced paw edema in mice.

Results. The results showed that HAP decreased nociceptive pain, and also reduced the edema paw volume 4 to 5 hours after the λ-carrageenan injection. Furthermore, HAP significantly inhibited the NF-κB activity that associated with expressions of COX-2 and iNOS, and the inflammatory response by decreasing the levels of the inflammatory mediators, such as IL-1β, IL-6, TNF-α, and NO.

Discussion. The anti-inflammatory mechanisms of p-HAP against λ-carrageenan induced paw edema involved some possible pathways.

Conclusions. This study demonstrated possible mechanisms for the analgesic and anti-inflammatory effects of HAP, and provided evidence for the classical treatment of HAP in inflammatory diseases.

Keywords: p-Hydroxyacetophenone, NF-κB, anti-inflammatory

REFERENCES