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MEETING ABSTRACT Open Access

Evaluation the antinociceptive and anti-inflammatory effect, of new rigid, propoxy benzopyrane-3,4 Di-hydroxychalcone derivative by Hot-plate, Formaline and Plethysmography

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Background

There are many reports indicating the analgesic and anti inflammatory effects of 3,4-dihydroxy chalcones. In this study antinociceptive and anti-inflammator effects of rigid derivative 3-(3,4-dihydroxybenzylidene)-7-propoxy benzopyran-4-one, were evaluated by Formalin, Hot plate and Carageenan tests.

Materials and methods

Experimental doses of 50, 75 and 100 mg/kg of 3,4-DHC were injected to mice and the analgesic and anti inflammatory effects evaluated by Formalin, Hotplate and Carageenan tests. Effective dose compared with Morphine and Ibuprofen.

Results

The result showed that, propoxy chalcone with dose of 75 mg/kg induced significant anti nociception and anti inflammation in Formalin and Carageenan tests. The results showed that the dose of 75 mg/kg of 3,4-DHC induces significant analgesia in 45 and 60 minutes in hot plate test .The analgesic effect of the most effective dose of 3,4-Dihydroxy chalcone 75 mg/kg was lower than morphine (2.5 mg/kg) in all time in Formalin and Hot plate tests. The analgesic effect of DHC was higher than Ibuprofen (200 mg/kg) in 0-5 minute in Formalin test and in 45 and 60 minutes in Hot plate test, but in chronic phase of Formalin test was nearly equal to Ibuprofen. In Carageenan test, the anti inflammatory effect of 3,4-DHC was higher than Ibuprofen (200 mg/kg) and morphine (2.5 mg/kg) in the first and third hours. Therefore it seems that 3,4-DHC has better anti-inflammatory effect rather than analgesic effect. The doses of 75 and 100 mg/kg, induced lethargy in mice.

Conclusions

The results showed that the modification of this structure of DHC, may lead to more effective derivative with significant analgesic effect and it could be used for more studies to access a clinical use of 3,4-DHC as a drug.

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