In vivo Analgesic and Anti-Inflammatory Activities of Ursolic Acid and Oleanoic Acid from Miconia albicans (Melastomataceae)

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The aim of this work was to use in vivo models to evaluate the analgesic and anti-inflammatory activities of ursolic acid (UA) and oleanoic acid (OA), the major compounds isolated as an isomeric mixture from the crude methylene chloride extract of \textit{Miconia albicans} aerial parts, in an attempt to clarify if these compounds are responsible for the analgesic properties displayed by this plant. Ursolic acid inhibited abdominal constriction in a dose-dependent manner, and the result obtained at a content of 40 mg kg\textsuperscript{-1} was similar to that produced by administration of acetylsalicylic acid at a content of 100 mg kg\textsuperscript{-1}. Both acids reduced the number of paw licks in the second phase of the formalin test, and both of them displayed a significant anti-inflammatory effect at a content of 40 mg kg\textsuperscript{-1}. It is noteworthy that the administration of the isolated mixture, containing 65% ursolic acid/35% oleanolic acid, did not display significant analgesic and anti-inflammatory activities. On the basis of the obtained results, considering that the mixture of UA and OA was poorly active, it is suggested that other compounds, rather than UA and OA, should be responsible for the evaluated activities in the crude extract, since the crude extract samples displayed good activities.

Key words: Miconia, Ursolic Acid, Oleanoic Acid