Anti-Inflammatory Activities of the essential oil from *Campomanesia adamantium* fruit

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Cerrado region is the second largest biome in Brazil, only after Amazonia. This ecosystem comprises more than 7.000 plant species (1). Due to its diverse flora, research interest has been increased and endemic medicinal plants from Cerrado have been a source of bioactive compounds. “Gabiroba”, “guabiroba-do-campo” or “guavira”, the fruit of *Campomanesia adamantium* (Cambess.) O. Berg, is widely found and used in areas of Cerrado, mainly in the Midwest region and Atlantic Forest in the Southeast and South regions of Brazil (2). *C. adamantium* belongs to Myrtaceae family and its fruit, as well as fruits from other species of *Campomanesia*, are traditionally used in the production of homemade liqueurs, juices, and sweets and also employed in folk medicine as anti-rheumatic, antidiarrheal, hypocholesterolemic, anti-inflammatory (3) and to the treatment of cystitis and urethritis (4). The present study evaluated the anti-inflammatory activities of essential oils from seed (EOS) of *C. adamantium* fruits in animal models. Essential oil was obtained from 200 g of dried seeds from *C. adamantium* by hydrodistillation (3 replicates) using a Clevenger-type apparatus for 3 hours. Samples obtained by hydrodistillation was analyzed by GC/qMS (Shimadzu P2010 plus. Shimadzu Tokyo, Japan) equipped with an auto injector split/splitless. Different groups were treated with doses of 100 and 300 mg/kg and the inflammatory parameters were evaluated in carrageenan induced paw edema and leukocyte migration in pleurisy model. The major constituents of EOS were was limonene (20.89%), β-pinene (11.48%) and α-pinene (8.50%). Paw edema was inhibited at all times, and maximal inhibition was at the dose of 100 mg/kg at 2 h after carrageenan injection with 74±2% for EOS. It was observed significant decrease ($P<0.01$) in leukocyte migration at the dose of 300 mg/kg of EOS, with maximal inhibition of 80±6% for EOS. This is the first evaluation of the anti-inflammatory effects of the essential oils of fruits (EOS) of *C. adamantium* in animal models. Analyzes using chromatography (GC-MS) indicated the presence of limonene that can be characterized as being a contributor to the anti-inflammatory effects, suggesting their use as nutraceutical or pharmacological agent.

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