IN VITRO ANTIOXIDANT PROPERTIES OF FRUIT PEEL FROM PEQUI CARYOCAR CORIACEUM WITTM.

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Introduction and Objective: Caryocar coriaceum Wittm. (Caryocaraceae) is a plant found in the Chapada of Araripe (Ceará State, Brazil) and used in folk medicine for the treatment of inflammatory diseases, rheumatism and respiratory infections. Some studies have demonstrated the antioxidant and nutritional properties of pequi pulp, highlighting its chemical composition represented by oleic acid. However, there are few studies investigating the pharmacological properties of fruit peel from Caryocar coriaceum. The present work aimed to evaluate the in vitro antioxidant potential of ethanolic extract of Caryocar coriaceum fruit peel (EEP).

Material and Methods: The identification and quantitative determination of EEP constituents were carried out by High Performance Liquid Chromatography (HPLC). The in vitro antioxidant potential of EEP was determined by its ability in reducing the formation of DPPH● radical and reducing or chelating iron ions, determined by colorimetric o-phenanthroline method. In rat liver homogenate was evaluated the capacity of EEP in inhibiting reactive oxygen species (ROS) production and lipid peroxidation.

Results and Conclusion: Our results showed that the EEP (50 μg/ml) was able to reduce Fe³⁺ to Fe²⁺ and also inhibited significantly the formation of DPPH radical (IC₅₀ = 38.66 μg/ml). The lipid peroxidation induced by iron in liver homogenate was decreased by EEP at concentrations ranging from 50 to 250μg/ml. Similarly, the EEP, at concentrations of 5 to 50μg/mL, reduced significantly the production of ROS elicited by Ca²⁺ (200μM) in liver samples. The major component found by HPLC in the extract was the polyphenol ellagic acid. Our data indicate that the ethanolic extract of Caryocar coriaceum fruit peel exhibits antioxidant properties in vitro, which could be considered as promising for in vivo studies in oxidative stress-related models.

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