

Anti-Inflammatory, Analgesic and Antipyretic Activity of Terminalia arjuna Roxb. Extract in Animal Models

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Abstract : Terminalia arjuna Roxb. (family Combretaceae) is commonly known as 'Sa maw thet' in Thai. The fruit is used in traditional medicine as natural mild laxatives, carminative and expectorant. Aim of the study: This research aims to study the anti-inflammatory, analgesic and antipyretic activities of Terminalia arjuna extract by using animal models in comparison to the reference drugs. Materials and Methods: The anti-inflammatory study was conducted by two experimental animal models namely ethyl phenylpropionate (EPP)-induced ear edema and carrageenan-induced paw edema. The study of analgesic activity used two methods of pain induction including acetic acid and heat-induced pain. In addition, the antipyretic activity study was performed by induced hyperthermia with yeast. Results: The results showed that the oral administration of Terminalia arjuna extract possessed acute anti-inflammatory effect in carrageenan-induced paw edema. Terminalia arjuna extract showed the analgesic activity in acetic acid-induced writhing response and heat-induced pain. This indicates its peripheral effect by inhibiting the biosynthesis and/or release of some pain mediators and some mechanism through Central nervous system. Moreover, Terminalia arjuna extract at the dose of 1000 and 1500 mg/kg body weight showed the antipyretic activity, which might be because of the inhibition of prostaglandins. Conclusion: The findings of this study indicated that the Terminalia arjuna extract possesses the anti-inflammatory, analgesic and antipyretic activities in animals.

Keywords : analgesic activity, anti-inflammatory activity, antipyretic activity, Terminalia arjuna extract

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