

Antinociceptive activity of *Toddalia asiatica* (L) Lam. in models of central and peripheral pain

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Received: 3rd April 2012, Revised: 16 April 2012, Accepted: 16 April 2012

Abstract

Toddalia asiatica within the context of traditional African medicine is a commonly used medicinal plant in East Africa for the management of pain and inflammatory conditions. It is used by the Masai in both Kenya and Tanzania for management of rheumatism among others. The present study was undertaken to investigate the antinociceptive activities of *T. asiatica* in Swiss albino mice in acetic acid-induced writhing, tail-flick and hot plate pain tests. The extract solvent (vehicle), morphine and aspirin were employed as negative and positive controls respectively. The acetic acid -induced writhing test was used as the screening test and as the root bark extract was found to be more potent than the leaf extract, the former was investigated using the hot plate and the tail flick tests. The root bark extract (200 mg / kg) showed highly significant ($p < 0.001$) antinociceptive activity in the hot plate and the tail flick tests. The 100mg/kg dose showed significant ($p < 0.05$) activity in the tail flick test but not significant in the hot plate test. The present study, therefore lends support to the anecdotal evidence for use of *T. asiatica* in the management of painful conditions.

Keywords *Toddalia asiatica*; Antinociception; writhing test; tail flick; hot plate

Introduction

Pain as a sensory modality, represents the symptom for the diagnosis of several diseases and conditions. It has a protective function. Pain is widely accepted as one of the most important determinants of quality of life because of its widespread adverse effects, including diminishing mental health and wellbeing and impairing the individual's ability to perform daily activities. Chronic pain impacts upon a large proportion of the adult population, including the working age population, and is strongly associated with markers of social disadvantage (Blyth et al., 2001). For thousands of years medicine and natural products have been closely linked prominently through the use of traditional medicines. Clinical, pharmaco-