

Wound healing and antiinflammatory properties of *Allophylus abyssinicus* (Hochst.) Radlk

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Abstract

The leaves of *Allophylus abyssinicus* (Hochst.) Radlk. (Sapindaceae) are used for the treatment of wounds, burns, skin diseases and to arrest bleeding in the Ethiopian folk medicine. In this study, the hydroalcoholic extract and the different solvent fractions obtained from the leaves of *A. abyssinicus* were evaluated for their wound healing and antiinflammatory activities. Wound healing activity was studied using excision, incision and dead space wound models whilst carrageenan-induced mouse paw oedema model was used to evaluate antiinflammatory activity. The methanolic fraction levigated in simple ointment at concentrations of 5% and 10% was found to be the most active in the excision wound model. Also, the same fraction exhibited good healing effect in incision and dead space models in a dose dependant manner. At a dose of 200 mg/kg, all the test substances except the chloroform fraction exerted significant antiinflammatory effects when compared to the control, the methanolic fraction being the most active. The present study supports the folkloric use of the plant for the treatment of wounds and inflammatory conditions.

Keywords: *Allophylus abyssinicus*; hydroalcoholic extract; solvent fractions; wound healing; antiinflammatory

Introduction

Since time immemorial man has used various parts of plants in the treatment and prevention of many ailments (Chah *et al.*, 2006). About 60% of the world population and 60-90% of the population of developing countries rely on traditional medicine for their primary health care (Kunwar and Bussmann, 2008). It has been reported that one-third of all traditional medicines in use are for the treatment of wounds and skin disorders, compared to only 1-3% of synthetic modern drugs (Mantle *et al.*, 2001). Phytomedicines are not only cheap and affordable but also purportedly safe as hypersensitive reactions are rarely encountered. These natural agents induce healing by multiple mechanisms. However, there is a need for