Tropentag, September 17-19, 2018, Ghent

"Global food security and food safety:
The role of universities"

Wound Healing Activity of Dried Leaves of some Selected Plants on Excision Wound in Rabbits

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Abstract

Healing of a wound is a complex and protracted process of tissue repair and remodelling in response to injury. The aim of treating wounds is to both hasten their healing and preclude undesirable consequences that may arise in the process. Plant products of *Azadirachta indica*, Aspilia africana and *Moringa oleifera* are cheap, locally available and safer than conventional wound therapies and they may provide a viable alternative to expensive conventional wound remedies especially for poor communities in developing countries. Leaves of these plants are used traditionally for medicinal purpose, which shows anti-inflammatory, immune-modulatory, anti-carcinogenic, blood purifier and wound healing properties. The proposed study was conducted according to the guidelines for care and use of animals. Treatment I is the control diet, Treatment II and III represent 15 % and 30 % *Moringa oleifera* meal, Treatment IV and V represent 15 % and 30 % Aspilia africana meal, Treatment VI and VII represent 15 % and 30 % *Azadirachta indica* meal respectively. Twenty- one grower rabbits of both sexes were used for the study. Wounds were inflicted on the rabbits using a punch- excision model of 2.5 cm diameter and treated with the test ingredients to evaluate and compare the influence of the plant material on wound healing. Healing was assessed by percentage wound contraction and microbial counts. All experimental rabbits were fed on daily basis for 24 days and wound area measurements were taken every three days.

Significant ($p > 0.05$) differences were not observed at the 1st, 3rd and 24th day of post wounding. Rabbits on 15 % Aspilia africana meal and 15 % *Azadirachta indica* meal had better wound healing activity from 6th to 24th day of post wounding compared to other treatments. High total bacteria and coliform counts (6.15×106 cfu/ml and 3.35×106 cfu/ml) were recorded in rabbits fed 30 % *Moringa oleifera* meal compared to 30 % Aspilia Africana meal (5.05×106 cfu/ml and 2.80×106 cfu/ml) and *Azadirachta indica* meal (5.50×106 cfu/ml and 3.10×106 cfu/ml) respectively. The study has indicated that 15 % Aspilia africana and *Azadirachta indica* meals accelerate wound healing which suggests good potentials for use in wound care.

Keywords: Aspilia africana, *Azadirachta indica*, *Moringa oleifera*, Rabbit, wound Healing

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