Curr Res Integr Med,
ISSN: 2529-797X, Volume 07

Webinar on
Alternative Medicine, Medicinal Plants & Chemistry

April 18, 2022 | Webinar

Liposomes-based Immunoassay for the Detection of Cardiac Troponin I-A Gold-Standard Biomarker for the Diagnosis of Myocardial Infarction

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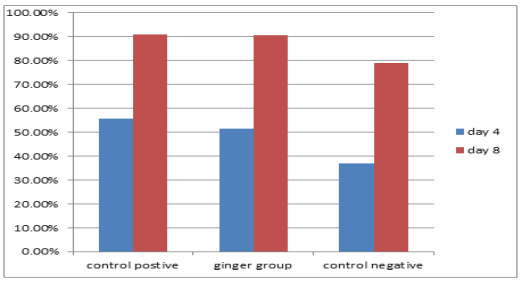
Statement of the problem: Wounds infection are very common which can range from mild to potentially fatal, current estimates indicate that nearly 6 million people suffer from chronic wounds worldwide specially in developing countries where most of the people suffer from an infected wound cannot afford to buy modern drugs, which are very high in costing and might have side effects therefor the plant roots are used in some parts of Sudan and other developing countries for wound healing however some of these plant not previously studied.

Aim of the study: to assess the antibacterial and wound healing activity of Zingiber officinale ethanolic (ginger) extract in wound infected albino rats and compare the effect of the plant against commercial reference drug against Staphylococcus aureus.

Methodology: an experimental study included fifteen swiss wistar albino rat, divided into three groups of five rats (Group 1 (wounded +infection, Group 2 wound +infection+ fusiderm ointment, Group 3 wound + infection +12% ethanol extract of Zingiber officinale with soft yellow paraffin), all results included microbial examination for bacterial count, histological examination done by Haematoxylin and Eosin stain and van Gieson for the presence of inflammatory cells and collagen and healing percentage measured by transparent ruler.

Finding: in vitro antimicrobial activity of the extract gave clear zones of inhibition on the standard Staphylococcus aureus, significant reduction of bacterial number observed in ginger treated group from.5×108cfu/ml to.5×102 cfu/ml on day 8 of dressing while the positive control group showed bacterial count reduction from.5×108cfu/ml to complete diminishing of bacterial infection. significant difference in the wound closure was observed in positive control group and ginger treatment group also showed faster wound healing with a percentage closed to positive control while the wound healing rate was slow and took more than 8 days in negative control, histological examination of granulated tissue showed more collagen fiber formation and reduction of inflammatory cell during the healing period, Conclusion: Zingiber officinale ethanolic extract exert antibacterial and wound healing capacity, this study established a good support to the use of plants in herbal medicine and as a base for the development of new drugs.



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