Tajdar Husain Khan, J Bioequiv Availab 2014, 6:5
http://dx.doi.org/10.4172/0975-0851.S1.017

OMICS Group Conferences
Accelerating Scientific Discovery

5th World Congress on
Bioavailability and Bioequivalence
Pharmaceutical R&D Summit

September 29-October 01, 2014 DoubleTree by Hilton Baltimore-BWI Airport, USA

# Isoeugenol accelerates wound healing by attenuating pro-inflammatory markers and chemokine expression in diabetic mice

**Tajdar Husain Khan**
Salman Bin Abdulaziz University, Saudi Arabia

Diabetes can delay wound healing by prompting long-term inflammation; delayed maturation of granulation tissues and inhibition of angiogenesis. Isoeugenol is a phenylpropene; present in many plants including calamus, savory, basil, clove, tuberose, jonquil, nutmeg, sandalwood, dill seed, mace, gardenia, petunia etc. It can also be produced by isomerization of eugenol, present significant amounts in clove, pimento, bay leaf, and cinnamon. Isoeugenol is used as a flavoring agent, in nonalcoholic drinks, baked foods, and chewing gums. In the present study, we investigated the effects of topical administration of Isoeugenol (50 mg/kg and 100 mg/kg; daily in 200 µl acetone) on excisional wound in diabetic Swiss albino mice. The five groups of Swiss albino mice were used (10 mice per group): group 1, the non-diabetic (normal control; NM); group 2, wound in non-diabetic mice (N+W); group 3, wound in diabetic mice (D+W); group 4, Isoeugenol 50 mg/kg treated wounds in diabetic mice (D+W+L50); group 5, Isoeugenol 100 mg/kg treated wounds in diabetic mice. Wound size was recorded on every third day and after 14 days of treatment, the heparinised whole blood and the wound tissue of all the groups was collected and tested. Isoeugenol treated mice showed a significant decrease in wound size, pro-inflammatory markers and chemokine expression. Furthermore, histopathological examination showed complete re-epithelization, decreased inflammatory cells and presence of granulation tissue in the Isoeugenol treated mice. These characteristics suggest a beneficial role of Isoeugenol in helping rebalance the wound environment in diabetes and therefore promote healing.

## Biography

Tajdar Husain Khan has completed his PhD in 2006 from Jamia Hamdard, New Delhi, India and currently working as Assistant Professor in Department of Pharmacology, College of Pharmacy, Salman bin Abdulaziz University, Al-Kharj, Saudi Arabia. He has published more than 30 papers in reputed journals and has been serving as an Editorial Board Member of repute. His area of expertise is cancer chemoprevention, microwave radiation, and chemical induced toxicity.

tajdarhamdard@gmail.com