

EVALUATION OF *LUCILIA SERICATA* LIVE MAGGOT IN REDUCING OXIDATIVE STRESS IN WOUND HEALING OF DIABETIC RAT

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ABSTRACT

Molecular oxygen plays pivotal role in the pathogenesis and curing of chronic wounds. Overproduction of reactive oxygen species (ROS) results in cytotoxicity and delayed wound healing. The present study aimed to evaluate the effectiveness of *Lucilia sericata* maggot in reducing oxidative stress in chronic wound healing in diabetes. Diabetes was induced in a total of 48 numbers of rats using streptozotocin (STZ), where chronic wound was created by inoculating mixed colonies of bacteria. Animals were divided into 4 groups with 12 rats each being presented as control, antibiotic, maggot and maggot and antibiotic in combination treated. All treatments were applied once and held for 24 hours. Oxidative stress parameter in maggot treated wounds evaluated with controlled one at weekly interval. Significant increase of Glutathione-S-transferase with a decreased level of Lipid peroxidation (LPO) in maggot treated wounds in comparison with other groups ($P < 0.05$) on 21th day of treatment, which were correlate with significant reduction of wound measurement in maggot treated wound in different days of treatment. Decrease wound area, increase GST and decrease LPO level in maggot treated animal might be due to free radical scavenging activity of ES of blowfly maggot which corroborates the findings of other researchers. The study further in opinion of that detailed study of ES of *L. sericata* and its molecular properties involvement in oxidative stress reduction needs to be explored adequately.

KEY WORDS: Chronic wound, diabetes, maggot therapy, oxidative stress.