

## Evaluation of Beneficial Influence of Local Application of *Crocus Pallasii Subsp. Haussknechtii Boiss.* Extract on Healing of Full Thickness Excisional Infected Wounds in Diabetic Rats

**Summary:** To evaluate the wound healing activity of *Crocus pallasii subsp. haussknechtii boiss* leaves extract on infected wounds in diabetic rats.

**Methods-Results:** Fifty male diabetic rats were randomized into two sets of 25 animals each. Each group was sub divided into five groups of five animals, each for excisional and incisional wound models, respectively. Induction of diabetes was achieved using 60 mg/kg streptozotocin. In group I, 0.1 mL sterile saline 0.9% solution was added to the wounds with no infection. In group II, the wounds were infected with Methicillin-resistant staphylococcus aureus (MRSA) and only treated with 0.1 mL the sterile saline 0.9% solution. In group III, infected wounds were treated with application of base formulation ointment. In group IV, animals with infected wounds were treated with 0.1 mL topical application of 1 mg/mL methicillin and base formulation ointment. In group V, animals with infected wounds were treated with topical application of 0.1 mL solution of methicillin (1 mg/mL) and with 1g of powder extract of the plant material in ointment. The healing of the wound was assessed based on planimetry, hydroxyproline estimation, microbiological, biomechanical and biochemical studies. Microbiological examination, planimetric, histological and quantitative morphometric studies and determination of hydroxyproline levels showed that there was significant difference between animals in group V compared to other groups ( $p=0.001$ ). Biomechanical indices in incisional groups showed there was significant difference between animals in group V compared to other groups ( $p=0.001$ ).

**Conclusions:** It was possible to conclude that the ointment of the extract of *Crocus pallasii subsp. haussknechtii boiss.* leaves have significant wound-healing activity in diabetes.