

### Abstract

"Evaluation of wound healing activity of *Lawsonia inermis* Linn GPO preparation in rat model"

*Extraction leaves of Lawsonia inermis* Linn can promote wound healing activity, enhanced wound contraction, enhance tensile strength and increase hydroxyproline content. It can be used as a wound healing agent. *Lawsonia inermis* Linn Extract and *Lawsonia inermis* Linn. GPO Preparation was evaluated for wound healing potential in rat model.

Fresh henna leaves (*Lawsonia inermis* Linn.) were collected and blended with 16% ethanol after that extract of *Lawsonia inermis* Linn. was filtered. The filtrate was used for the experiment. The preparation was the extract of *Lawsonia inermis* Linn add with GPO formulation in ratio 1:9.

The wound healing activity was assessed by measuring the wound area and recording the day of complete epithelialization. The wound was also subjected to histopathological studies to examine the microscopic changes.

The result reveals that: The animal in group V ; treated with *Lawsonia inermis* Linn. Preparation showed a significant relation reduction in wound area (88%, 96%) when compared with control group ( 77%,87%) and standard group; treated with silver sulfadiazine (82%, 92%),and treated with hydrogel (72%,89%). The rate of epithelialization, animal in group IV (*Lawsonia inermis* Linn. Extract) and group V (*Lawsonia inermis* Linn. GPO Preparation) showed faster rate of epithelialization (Mean  $\pm$  SD, days:  $12.2 \pm 0.44$ ,  $12.0 \pm 0.70$  respectively) compared to group III (hydrogel) and control group, and showed equivalent rate of epithelialization compared to group II (Mean  $\pm$  SD, days:  $12.20 \pm 0.44$ ). Histopathological studies also supported the wound healing in group IV and groupV, tissue obtained from day 20<sup>th</sup> showed more fibroblast and collagen and few inflammatory cells when compared with control and standard group .Thus this study can concluded the use of *Lawsonia inermis* Linn GPO preparation as a wound healing agent.