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Effect of Flabelliferin B on wound healing: A preliminary study

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Wound care and management developed rapidly after the discovery of the antibiotics. However, still there is a need to identify more effective antibacterial agents for effective management of wounds. Previous studies reported one such compound called Flabelliferin B (F_B) isolated from palmyrah palm fruit pulp. F_B is a steroidal saponin having proven structure β Glc α 1, 2 Rha and α 1, 4 Rha attached to 3rd position of β- sitosterol. F_B had a wide rage of activity against several bacterial species and yeast. The present study was carried out to observe the possible toxic effects and wound healing effects using animal models and humans.

F_B (0.45 mg in saline) indicated no toxic effects on wounds made on Wistar rats (n = 8). Standard experiments resulted lowering of microbiological colony counts on above wounds. As our intention was to have infected wounds, no attention was paid to maintain aseptic conditions when wounds were inflicted. Ocular toxicity studies were carried out using Wistar rats (n = 8) and New-Zealand white rabbits (n = 6). Above experiments confirmed the absence of the possible local and systemic adverse effects. Patch test carried out on normal healthy human volunteers' skin (n = 7) indicated no adverse effects.

A pilot study was carried out in Colombo South Teaching Hospital using 2% F_B in white soft paraffin against current hospital treatments as controls. A double blind study was not possible in the ward due to logistical reasons. Patients with ulcers with underlying pathologies were not included in the study. Average wound healing rates per week were 23.7% for test and 17.5% control ($p = 0.512$).

In conclusion, all animal studies together with the human patch test did not indicate any possible toxic effects from F_B on test subjects. Wound healing was clinically significant. In addition, it was observed that new F_B formulation could act as a wound debridement agent as well as a cleanser.

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