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Evaluation of wound healing potential of *B. ligulata* leaf and rhizome extracts in normal and diabetic rats

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Cutaneous injury is characterised by fibroplasia, angiogenesis, reepithelisation, involves the migration and proliferation of cells such as fibroblasts, endothelial cells, epithelial cells, deposition of connective tissue and contraction of the wound. These steps are orchestrated in a controlled manner by a variety of bioactive molecules like growth factors, cytokines, their receptors and matrix molecules. Such a controlled phenomenon can be disrupted in diseases like diabetes, immuno compromised persons, ischaemia etc, thus leading to development of chronic wound. Wound healing in diabetic condition continues to be a therapeutic challenge. Treatments that exist today are often expensive and exhibit major adverse effects. Scientists are trying to develop newer drugs for diabetic wound care and are looking towards natural sources. We have been, there fore investigating plants used for this purpose by using Indian traditional system of medicine.

Berginia ligulata commonly known as paashaunbhed in ayurvedic traditional Indian medicine belongs to family Saxifragaceae. *B.ligulata* is widely used in treatment of urolithiasis i.e, it dissolves kidney stones. It is reported to exhibit antipyretic, diuretic, antioxidant, antidiabetic, hepatoprotective activity. Local community people used leaves for cut, wounds and boils thus *B.ligulata* was selected for screening wound healing in normal as well as delayed type wound (diabetic animals). Topical application of methanolic rhizome and leaf extracts produced highrate of wound contraction, increase in hydroxyl proline content, tensile strength, collagen content and better epithelisation in normal animals. In streptozotocin diabetic rats, where healing is delayed topical application of extracts over wound increased 56% and 67% hydroxyproline contents, 58% and 69% increase in tensile strength, 79% reduction in wound area, collagen content and epithelisation as compared with control there by facilitating healing.

The results indicated that both the extracts exhibits significant wound healing activity in normal as well as delayed healing.

Biography

M. Swapna Reddy is Assistant professor in Vaagdevi Pharmacy College, Warangal, A.P, India. Completed M.Pharmacy in the year 2009 from Vaagdevi College of Pharmacy, Kakatiya University, Warangal, A.P. She has teaching experience of 4 years and has guided various projects for graduates. She has published 2 papers and communicated 3 in various journals and attended various international conferences for poster presentations.