

Ropana Effect of *Murikooti* in the Management of *Vrana*. A Review Article

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Abstract—Wound is a discontinuity of the body tissue that can significantly affect an individual day to day activities and quality of life. Almost all individual experiences wound at least once in their lifetime, hence wound is considered as very common clinical condition. In Ayurveda this condition is explained under the concept of *Vrana*. Safe, effective and timely management of *Vrana* (wound) is important for promoting healing and to prevent complications. *Murikooti* is a traditional herb widely used in Kerala folklore medicine that is well known for its significant wound healing properties. The main objective of this review is to gather all existing evidence related to *Ropana* property of *Murikooti* and its effectiveness in wound healing.

Keywords— *Hemigraphis colorata*, *Murikooti*, *Ropana*, *Vrana*, Wound healing.

I. INTRODUCTION

Wound is a break in the integrity of skin or tissue often which may be associated with disruption of structure and function¹. It is estimated that 1% to 2% of the population experiences a chronic wound during their lifetime in developed countries, chronic wound has a significant impact on the health, quality of life of patient and their families². According to Ayurveda, *Vrana* is discontinuity or destruction of tissue caused by pathological conditions or trauma. *Acharya* Sushruta defines, *Vrana* as a condition caused by trauma or internal factors, leading to varying degree of tissue destruction³. Wound management continues to be a significant challenge in healthcare due to delayed healing, risk of infection and recurrence associated with long-term treatment. Although various modern wound-care modalities, including antibiotics, antiseptics, dressings, and surgical interventions are available, limitations such as adverse effects and treatment costs have encouraged the search for safer and more effective alternatives.

Medicinal plants have gained increasing attention because of their diverse pharmacological activities and long history of traditional use in wound care. Researchers around the world are increasingly exploring medicinal plants due to their minimal side effects, high therapeutic efficacy, and better safety profile. *Hemigraphis colorata*, commonly known as *Vranaropani*, *Murikooti* and *Muripaccha*⁴ is a medicinal herb widely used in traditional Ayurveda practice for wound healing - (Figure 1). The medicinal plant *Murikooti* possess *Vranashodana* (cleaning), *Vranaropana* (healing), *Shothahara* (anti-inflammatory) properties⁴. Therefore, *Murikooti* may be considered as a promising therapeutic option for the management of *Vrana*.



Figure 1 *Murikooti*

II. BOTANICAL DESCRIPTION³

Botanical Name	- <i>Hemigraphis colorata</i>
Kingdom	- Plantae
Division	- Tracheophytes
Class	- Angiosperm
Order	- Lamiales
Family	- Acanthaceae
Genus	- <i>Hemigraphis</i>
Species	- <i>colorata</i>
Synonyms	- <i>Strobilanthes alternata</i> - <i>Rulia alternata</i>
English	- Red flame ivy
Sanskrit	- <i>Vranaropani</i>
Malayalam	- <i>Murikooti</i> , <i>Muriyan pacha</i>

III. PHYTOCHEMICAL CONSTITUENTS

Phytochemicals are a group of secondary metabolites that have therapeutic properties⁵. This phytoconstituent in plant can be used for various medical purposes. The plant is rich in

both primary and secondary metabolites comprising of phenols, saponins, flavonoids, terpenoids, coumarins, carbohydrates, carboxylic acid, xanthoproteins, tannins, proteins, alkaloids, steroids, and sterol^{5, 11}. These phytochemical provide curative properties for the drug. Most studies suggest that the main chemical constituent present in the *Hemigraphis colorata* is β - Carotene⁵ (Figure 2)

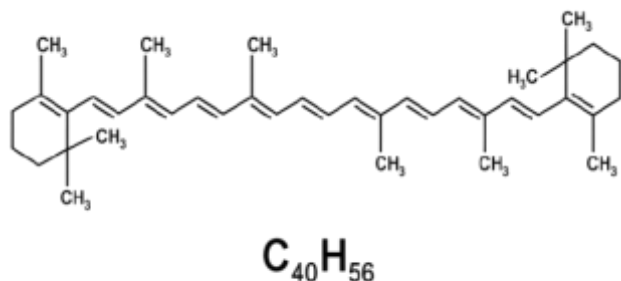


Figure 2 Structure of β - Carotene

IV. PHARMACOLOGICAL ACTIVITY

4.1. Wound Healing Activity of Murikooti -

Wound healing is the physiological response to the tissue injury that results in the replacement of destroyed tissue by living tissue and thus restoration of tissue integrity. The mechanism of wound repair occurs by four basic processes such as inflammation, wound contraction, epithelialization and granulation tissue formation⁶.

Medicinal action of the plants is due to the synergic action several compounds targeting multiple sites associated with physiological processes.⁷ In folklore the leaf juice is applied directly on open wounds to stop bleeding⁸. Its wound healing potential has also been evidence through various in vitro and in vivo studies. According to research findings the wound contraction and epithelialization were faster in the leaf paste applied on mice compared to control group. The drug paste adhered on the wound within and prevented the discharge from the wound within a few hours after application. The wound were completely healed in less than 18 days whereas the control animals it took more than 26 days⁹. Naturally in wound the inflammation was initiated by hemolysis of RBC membrane, thereby releasing the content in the blood plasma. It was noticed that *Hemigraphis colorata* leaf extract (*Swarasa*) suppresses hemolysis by rupturing the RBC membrane supporting the anti-inflammatory property of *Murikooti*¹⁰.

Along with wound healing activity the drug also possess anti-bacterial activity^{4, 11}, anti-oxidant activity¹¹, anti-diabetic activity¹¹, anti-diarrheal activity^{4, 11}, anti- inflammatory property¹⁰ and anthelmintic effect⁶.

Common Use – This plant has been also used to treat blood dysentery, bacterial infections, fungal infections, haemorrhoids⁴. Also known to be used for treating anemia, gallstone, and excessive menstruation and as a contraceptive¹².

V. DISCUSSION

So, this article highlights the significant *Vranaropana* (wound healing) property of *Murikooti*. It states that *Murikooti* has effective wound healing properties through it combined anti-inflammatory, anti-bacterial, anti-oxidant activities. In ancient times, traditional Ayurveda practitioners have utilized *Murikooti* for managing wound and to prevent complications associated with chronic wound. According to Ayurveda, the process of *Vranaropana* involves restoration of damaged tissues through cleansing, healing, and regeneration. *Murikooti* is traditionally described as possessing *Vranashodana* (wound cleansing), *Vranaropana* (wound healing), and *Shothahara* (anti-inflammatory) properties. These Ayurvedic actions can be correlated with modern concepts of wound healing. Considering the rising number of wound cases, traditional Ayurveda formulations like *Murikooti* are ideal as it is easily accessible and developed with limited resource.

However, despite the encouraging outcomes, the reviewed articles exhibited certain limitations, including small sample sizes, variations in treatment protocols and assessment criteria, and a lack of randomized controlled trials. Therefore, well-designed standardized clinical trials with larger sample populations are essential to establish stronger scientific evidence, achieve treatment standardization, and assess the comparative effectiveness of *Murikooti* with contemporary wound care practices.

VI. CONCLUSION

The usage of folk medicine for curing human disease has increased their market value in herbal industry. But absence of proper scientific evidence for revealing the drug action of herbal medicine diminishes it wider acceptance in clinical therapy¹⁰. This review of the literature mainly indicate the *Ropana* effect produced through the application of *Murikooti* in the form of *Kalka* (Paste) and *Swarasa* (leaf extract) in wound. However further studies are required to evaluate efficacy of other formulations of the *Murikooti* such as oil, ointments and other medicated preparation in different types of wound. Additionally, more clinical and experimental research help to better understand its therapeutic action, mechanism of action and wide applicability in wound care management

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