

**A COMPARATIVE CLINICAL STUDY TO EVALUATE EFFICACY OF TILA KALKADI LEPA AND JATYADHI GHRITA IN THE MANAGEMENT OF SHUDDHA VRANA WITH SPECIAL REFERENCE TO WOUND HEALING**

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**ABSTRACT**

Healing of vrana is either primary or secondary by nature. Secondary healing requires more attention than primary healing. Basically, two things, shodhana and ropana, are desirable for proper healing. Many drugs have been described in classics for healing, but none of them is capable of healing the wound individually. Hence to fulfill the aim, Tilkalpa was prepared with the help of two ingredients (Tila and madhu) drugs having vrana ropana effects and evaluated clinically for its healing properties in this study. It was used topically in post operative wounds. Ayurvedic medications is one of the primary areas of research. In centers various medications many research were used in the management of different wounds, where in classics it is described as Sadhyo Vrana & in our research centre many drugs were tried. Few of them like panchavalkal kashaya. The Tilakalakadilepa is very efficient towards the fresh wound as it consists of honey and ghrita as the ingredient which acts over the anti-inflammatory, anti-bacterial factors and providing growth to the viable tissue.

**KEYWORDS:** Tila, Madhu, Vrana

**INTRODUCTION**

Ayurveda, more a science of life than only a medical science, gives more importance to preventive measures and complete curing of a disease with a minimum chance of recurrence. Ever since life originated, a human being has been at risk of injury, which made him think about healing. For the same in society, matter obtained from animals, herbal and minerals used as crude remedies<sup>1</sup> for stopping acute hemorrhage, eradicate injured tissue etc and promote healing faster. From the earliest known files found in Mesopotamia approximately 2500 BCE till the present era, many development and dissemination on wound treatments were have

been done still easy and fast curing remedies are still in need.<sup>2</sup> It's a natural restorative response of a wound to tissue injury which can be explained in three classic phases 'namely inflammation, proliferation and maturation which produces resurfacing, reconstitution and restoration of the tensile strength of wounded skin and when granulation tissue forms the wound begins to contract.<sup>3</sup> The medical science, Ayurveda was the conventional medical science in the vedic era and became most effective in the current era due to its ultimate and efficient outcomes. It was so well developed a complete chapter about the treatment of traumatic vrana in

sushruta samhita, in this book, for the vrana treatment he described “shastri upakramas”<sup>4</sup> Among this “shashti upakrams” i.e combination of honey and ghee which is taken for the present research work. This is also mentioned in the chapter of named sadhya-vrana and also Acharya Charka, has described thirty –six types of treatment of wound. Honey and ghee are very Beneficial for shudha vrana<sup>5</sup>

### AIM AND OBJECTIVES:

To Compare the Vrunaropana effect of Tila kalkadi Lepa with Jathyadi Ghrita in Shudhavruna

### MATERIALS AND METHODS:

#### Ingredients of Tila kalkadi lepa:

Tila	-	1 Part
Madhu	-	½ part
Ghrita	-	1part



### Preparation of Tila kalkadi lepa

Tilakalkadilepa is a combination of Tila, kalka, Madhu and Ghrita.

Tilakalka, Ghrita were taken in equal quantity and madhu is ½ part mixed well before applying and made into paste form Fresh paste was prepared every day to apply on vrana.

#### DIAGNOSTIC CRITERIA:

According to the lakshanas of ShudhaVrana ;

Patient with lakshanas of Dushta Vrana and having a chronicity of minimum 4 weeks.

- Pooti Pooya
- Ateeva Vedana
- Daha
- Kandu
- Shopha
- Shonita Srava

#### MODE OF ADMINISTRATION

After wearing sterile gloves, the wound

was carefully examined and slough, pus discharge etc were cleaned with sterile gauze. Then ulcers were washed with Normal Saline and wound was dried with sterile gauze. Tila kalka lepa was applied it over the wound. The quantity of Lepa was depending on the size of the vrana. The same procedure followed for Group B where in Jathyadi Grutha was used instead of Tila kalaka lepa. The procedure is done to prevent the contamination from surrounding area and to protect the part from external trauma and to keep the medicament on the lesion for longer duration. Depending upon the quantity of oozing and odour dressing was done either daily or twice in a day and it was continued for a maximum of 7 days. The follow up was done one week after the treatment.

## **PATHYA**<sup>6</sup>

**Ahara:** Vrana rogi should include jeerna shalyodana which is snigdha, ushna and dravottara (little quantity of water), jangala mamsa, tanduliyaka, jivanti, sunishannaka, vatsuka, bala mulaka, vartaka, patola, karavellaka, dadima, amalaka fried in ghee added with saindhava, or any other in similar in quality or soup of mudga or sakthu, vilepi, kulmasa in his diet. He should consume hot water (sritha jala). For Dushta vrana rogi ahara should be of vishoshana type ie. Tiktha, kashaya, katu rasa pradhana.

**Vihara:** Vrana rogi should keep his nails and hairs clean always. He should wear dresses which are white and clean. He should observe shanthi, mangala and pay respect to God, Brahmanas and Teachers.

## **APATHYA**<sup>6</sup>

**Ahara:** Vrana rogi should not take nava dhanya, masha, tila, kalaya, kulatha, nishpava, haritha sakha, things which are amla, lavana and katu rasa, guda, pishta vikruthi, valloora, sushka sakha, aaja, aavika and anupa, audaka mamsa, vasa, seethodaka, krsara, payasa, dadhi, dugdha, takra. He should avoid madhya like maireya, arista, asava, sidhu and sura. He should also avoid athi bhojana, anishta bhojana, virudha, adhyasana, ajeerna ahara. **Vihara:** Vrana rogi should avoid sleeping during day time. The wounded person should not indulge in standing, sitting, walking for long period. He should avoid darsana, bhashana, sparsana of sthree. He should also avoid athi sevana of vata, atapa, raja, dhooma, avasyaya, jealousy in seeing and hearing, bhaya, shoka, dhyana, vishamasana,

vishama shayana, upavasa, vyayama, sheeta vata and trouble by flies

## **RESULT & DISCUSSION**

**Effect on Size:** Comparison of the 2 groups between before and after treatment mentioned by Mann-Whitney U test and Wilcoxon matched pairs test. It shows that no significant difference is observed between group A and group B at pre treatment with size and also no difference is found between 2 groups after treatment. But, a significant difference was observed before and after treatment in A, so is significant. And before and after treatment in B is also significant. It shows that there is no difference between group A and group B but within the group, there is a significant change. Since Tila is kashaya rasa pradhana and has vranaropanaguna. Sesame is a source of antioxidant vitamins A and E. this might give good protection against oxidative damage and promote healing<sup>6</sup>

**Effect on Edges:** As seen from the statistical data, there was significant change within the groups A and B. But there was no significant difference found between the two groups based on the Mann-Whitney U test. Kashaya Rasa of tilakalkadi is known for its Lekhana karma (scraping) that helps in desloughing and preparing the Vrana for healing. Thus, tilakalkadi has excellent properties to heal the wound by virtue of its Shodhana karma (purification), Ropana karma (healing), and Sandhanakarma (union) actions. Due to an enhanced rate of healing and absence/reduced wound contracture phenomenon the ulcer remains open and

the secretions which would get collected in and hamper the healing process, get cleaned faster. This process adds to the regeneration of tissue and minimum scarring and fibrosis of the wound edges.<sup>7</sup>

**Effect on Exudates Type:** Most of the patients of both the groups had score 2 to 4. After treatment, both group A and B had score 1 with significant difference within the groups but not much difference between the groups A and B.

This action might have occurred because tilakalkadi has been described as having the ability to promote phagocytosis, detoxification, and proteolysis, all of which assist in wound cleaning. Further, tilakalkadi is known to pacify Pitta Dosh by virtue of its Madhura Rasa and Sheeta Guna and Kapha is taken care by honey's Kashaya Rasa and Ruksha Guna because of which healing is accelerated.

**Effect on Skin Colour Surrounding Wound:** Majority of the patients of both the groups were found with score 2 & 3. After treatment, both groups A and B achieved 100% score 1 with significant changes within the groups but no significant difference between the groups A and B. Tilakalkadi is a hyperosmolar medium which prevents bacterial growth. It forms a physical barrier. Because of its high viscosity and the presence of the enzyme catalase gives tilakalkadi antioxidant properties.<sup>8</sup>

**Effect on Peripheral Tissue Oedema:** As the study was done on shuddha Vrana, around 60 – 33.3% patients presented with peripheral edema with score 1 & 2. All the patients presented with score 1 in both groups. And 100% result of score 1

was obtained in both the groups after treatment. The inflammation/edema might have been relieved because of the sheetaguna of Madhu.

**Effect on Peripheral Tissue Indurations:** All the patients had a different score on Peripheral Tissue Indurations ranging from score 1 to 2. And were successfully treated to obtain score 1 by both the groups A and B with no much significant difference between the groups A and B. Tilakalkadi is known to be useful in the prevention of hypertrophic scarring and might also be a very effective agent for the dressing of split-thickness skin graft.

**Effect on granulation Tissue:** More than 73.33% patients presented with score 2 (Bright, beefy red; 75% to 100% of wound filled &/or tissue overgrowth) before treatment and after treatment for 7 days, on assessment it was found both the groups mostly obtained score 1 (group A- 93.33% and group B – 100%). Madhura Rasa of Madhu known to provide nutrition to the tissue, this must have helped in the granulation tissue formation.

**Effect on Epithelialisation.** Most of the patients had different scores with group A (46.67% - score 2) group B (66.67% - score 2) before treatment. After treatment for 7 days group A achieved around 60% score 1 and group B achieved around 80% score.

1. There is a small difference between the groups after treatment but it is not statistically relevant.

Gogerty is known for its soothing property. It forms a thin film over them, and this might help in early epithelization

of a wound. It also provides protection to the wound from the invasion of any microorganism.

**Effect on Overall Score-** The total score of group A was 47.81% and group B was 51.19% after 7 days of treatment. This percentage of the overall score shows that there was hardly 3% difference between the results of the two groups which is statistically relevant. It can be observed

that Tilakalkadi Lepa speeds up the process of healing which might have occurred by promoting epithelialization, reducing inflammation by eliminating tikshna guna of pitta and relieving pain, reducing wound contracture, by keeping the edges soft by reducing rukshata of Vayu, this might have also helped in reducing the risk of secondary infection and Kapha is counteracted by Madhu.

Variables	GroupA	GroupB	Total	Z Value	P Value
<b>Size</b>					
Before Treatment	2.3±0.57	2.45±0.69	2.38±0.63	-0.952	0.341
After Treatment	1.15±0.37	1.15±0.49	1.15±0.43	-0.058	0.953
<b>Edges</b>					
Before Treatment	1.75±0.44	1.85±0.75	1.8±0.61	-0.311	0.756
After Treatment	1±0	1±0	1±0	0.000	1.000
<b>EXUDATE TYPE</b>					
Before Treatment	1.4±0.5	1.75±0.79	1.58±0.68	-1.389	0.165
After Treatment	1±0	1±0	1±0	0.000	1.000
<b>SKIN COLOUR</b>					
Before Treatment	1.4±0.5	1.6±0.75	1.5±0.64	-0.679	0.497
After Treatment	1±0	1±0	1±0	0.000	1.000
<b>PERIPHERAL TISSUE</b>					
Before Treatment	1.35±0.49	1.45±0.6	1.4±0.55	-0.432	0.665
After Treatment	1±0	1±0	1±0	0.000	1.000
<b>GRANULATION TISSUE</b>					
Before Treatment	1.5±0.51	1.6±0.6	1.55±0.55	-0.463	0.643
After Treatment	1.05±0.22	1±0	1.03±0.16	-1.000	0.317

EPITHELIALIZATION					
Before Treatment	2.65±0.75	2.8±0.95	2.73±0.85	-0.732	0.464
After Treatment	1.4±0.82	1.45±0.6	1.43±0.71	-0.789	0.430

### Significant figures

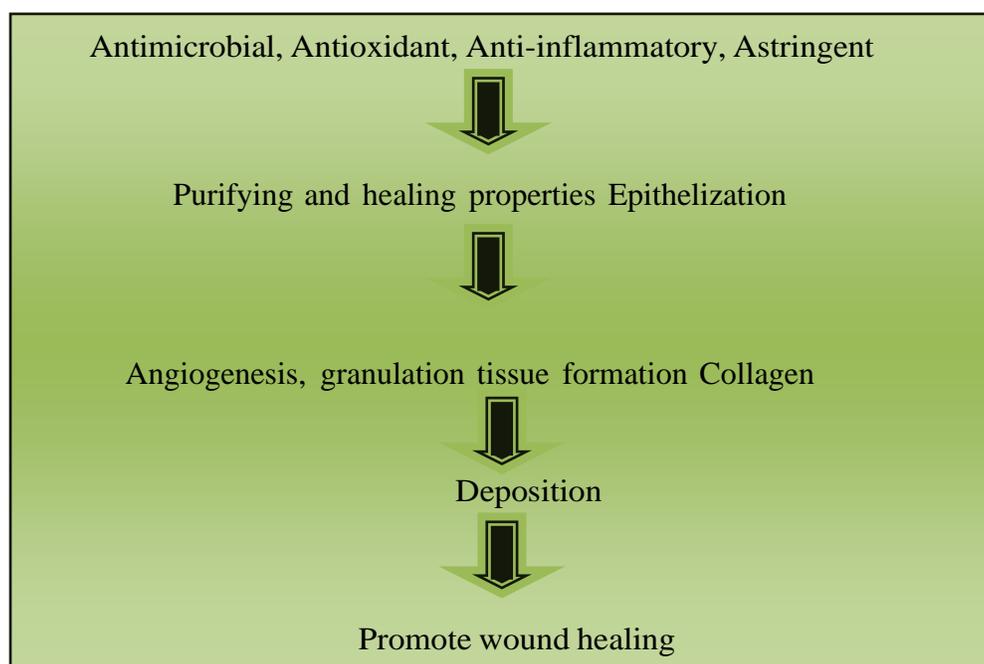
+ Suggestive significance (P value: 0.05<P<0.10)

\* Moderately significant (P value:0.01<P <0.05)

\*\* Strongly significant (P value : P<0.01)

### Role of Tilakalkadi lepa wound healing:

Flow chart to show role of Tilakalkadi lepa wound healing



### CONCLUSION

The Vrana should be protected from Dosha Dusthi and from various micro-organisms, which may afflict the Vrana and delay the normal healing process. Tilakalkadi Lepa has shown a significant result in various factors like Tenderness, Exudates, size, Epithelialisation, Granulation Tissue etc. Jatyadi grutha and Tilakaladhilepa showed maximum equal results, both are statistically and clinically both the Gritha and Lepa are significant.

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