



Research Article

A CLINICAL STUDY TO EVALUATE THE EFFICACY OF MANJISTHADI TAILA IN VRANA ROPANA

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ABSTRACT

Wound healing is a complex and dynamic process, with the wound environment changing with the improving health status of the individual. The knowledge of the physiology of the normal wound healing trajectory through the phases of haemostasis, inflammation, granulation and maturation and provides a framework for the understanding of basic principles of wound healing. Studies reveal that it is difficult to achieve the complete aim of wound management with a single drug. In the present study *Manjishthadi taila* is selected from Sushruta Samhita. It consists of *Tila Taila, Manjistha, Haridra, Bharangi, Tutha, Hulhula, Lodhra, Haritaki, Madhuyasthi, Vidanga, Priyal, Talispatram, Kash, Chandan, Padamkesar, Tinduk, Padamakam, Renukabeej & Ksheeripatra*. These drugs possess *Vrana shodhana & Ropana* properties. It was used topically in patients of *Shudha vrana* formed after cut through of ligated *Ksharasutra* in different cases like piles, fissure, excised cyst, excised pilonidal sinus & excised corn for three months or till complete healing whichever is earlier. It is a single blind clinical study where forty patients were selected & divided randomly into two groups of twenty patients each. Trial group patients wound were treated with dressing of *Manjishthadi taila* and control group patients wound were treated with Povidone-Iodine dressing. *Manjishthadi taila* reduces pain, burning sensation, swelling, tenderness, discharge, color & odour, it helps in gradual improvement of granulation tissue as compared to control group. Hence it can be speculated that *Manjishthadi taila* possess sufficient efficacy in *Vrana shodhana & Vrana ropana* without producing any deleterious effects.

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INTRODUCTION

Wound healing is a complex and dynamic process, with the wound environment changing with the changing health status of the individual. The knowledge of the physiology of the normal wound healing trajectory through the phases of haemostasis, inflammation, granulation and maturation provides a framework for the understanding of basic principles of wound healing. Through this understanding, the health care professional can develop skills required to take care for a wound and the body can be assisted in the complex task of tissue repair. Though we can treat the wound considering the knowledge of healing with the help of modern technology, the wounds were treated in the similar fashion in ancient era. This complex procedure of healing has been described in an excellent way in the ancient classics of Ayurveda. They studied the healing through their keen observation, understanding and divine power, in the absence of advanced modern techniques.

Sushruta, the Father of surgery, has described the management of wounds in his treatise. It is the best description ever, in the history of medical sciences in

case of wound management. We do not find such a detailed and complete management in any stream of medicine. The work has been summarized in *Shashti Upkramas*¹ i.e., sixty measures (sixty different aspects) for wound management by him.

There is a constant need to deal with the inflammation as well as problems in healing the different surgical disorders.

The process of wound healing is almost same at the terminal stages, whereas at initial stages it shows some differences and includes a number of cellular and molecular phases till the process of healing is completed².

Since time immemorial, it has been an ongoing process to search out better remedy in order to overcome the previous drawbacks, exposure to infection and prolongation of inflammatory phase, plays the prime role to delay the healing process, whereas creating the favorable conditions that allow the wound to heal properly is the ultimate aim of any surgeon.

There are many measures to create favorable conditions for wound healing, such as use of antiseptic solutions and antibiotics to combat the infection, inflammation and many agents to remove slough dead tissues to shorten the inflammatory phase and thus promote the healing process. But these measures have failed to achieve good cosmetic effect by not producing minimal and fine scar formation.

That is why, the search is still on to find out a drug or drug combination which can fulfill the optimal requirement. The healing activities have been attributed partially by very few active chemical constituents like anthraquinones found in *Manjistha* (*Rubia cordifolia* Linn.), etc. and studies reveal that it is difficult to achieve the complete aim of wound management with a single drug. Hence, there is a constant need to find out a single and effective formulation which possesses both *Vrana shodhana* and *Vrana ropana* properties.

Keeping this thing in mind, the present work entitling "A Clinical study to evaluate the efficacy of *Manjisthadi Taila* in *Vrana ropana*" has been selected from Sushruta Samhita. For this study *Manjisthadi Taila* contains *Manjistha*, *Haridra*, *Bharangi*, *Haritaki*, *Tutha*, *Hulhula*, *Yashtimadhu*³. These drugs were processed and prepared with *Taila Paka viddhi* to elicit *Vrana Shodhana* and *Vrana Ropana* properties.

MATERIALS & METHODS

The work was carried out after obtaining approval from the institutional ethical committee, Jammu Institute of Ayurveda & Research, Nardini (Raipur), Jammu, India.

Drug Review

Manjisthadi Taila of prepared with reputed drugs having healing properties, described in Sushruta Samhita, was prepared with *Taila paka* on the basis of *Manjishta*, used as a prime healing drug described in Ayurvedic literatures. An attempt was made to explore the *Shodhana* and *Ropana* properties of the trial drug scientifically. *Vrana ropana* involves *Shodhana* followed by *Ropana*, two stages happen practically, i.e., subsiding local *Shotha* by removal of local *Dhatu dushti*, followed by initiation of *Ropana* process, i.e., contraction and covering of wound by epithelial layers.

Drug Ingredients

Tila Taila, *Manjistha*, *Haridra*, *Bharangi*, *Tutha*, *Hulhula*, *Lodhra*, *Haritaki*, *Madhuyasthi*, *Vidanga*, *Priyal*, *Talispatram*, *Kash*, *Chandan*, *Padamkesar*, *Tinduk*, *Padamakam*, *Renukabeej* & *Ksheeripatra*.

Method of Preparation

All the drugs were cleaned dried and coarse powder was done then these drugs, were soaked in water for some time. *Tila Taila* was kept over the Gas stove, warmed till bubble rise off. Then the *Kalka Dravya* and water was poured into the *Tila Taila* as per literature. Then the oil was again kept over slow flame of stove till *Khar paka Avastha* was achieved. Then the oil was sieved, collected and packed in clean, sterilized air tight containers. For the management of *Vrana*, sixty *Upkramas* are explained by Acharya Sushruta. Out of

these sixty *Upkramas taila* application is one. Among Sixty *Upkramas Kashaya*, *Varti*, *Kalka*, *Sarpi*, *Taila* and *Rasakriya* are explained as to as to be used for *Shodhana* and *Ropana* of *Vrana*⁴.

Clinical Study

The study is planned to evaluate the effect of *Manjisthadi taila* in the management of all type of *Vranas*. In this clinical study, 40 patients suffering from *Vrana* has been selected from OPD and IPD of Shalya Tantra Department of Jammu Institute of Ayurveda and Research and allied hospitals in the vicinity of Jammu and were divided into two groups of twenty patients each.

Group A: *Manjisthadi taila* group

Group B: Povidone iodine group

Duration of Treatment: Till complete healing.

Observation Period: The patients are observed up to complete healing of *Vrana* or three months whichever is earlier.

Follow up: Three months.

Inclusion Criteria

- Patients aged between 10 to 60 years.
- Patients of either sex were taken.
- Patients of *Shuddha vrana*, formed after cut-through of ligated *Kshara Sutra* in different cases like piles, and fissure, excised cyst, excised pilonidal sinus, excised corn.

Exclusion Criteria

- Patients suffering from degenerative diseases.
- Patients with uncontrolled diabetes mellitus.
- Patients suffering from diabetic foot.
- Patients suffering from lesions like tuberculosis, syphilis etc.
- Patients having pre-gangrenous or gangrenous changes.
- Patients suffering from osteomyelitis.
- Patients suffering from HIV, Hbs Ag.
- *Vrana* present on all movable and highly movable joints.

Assessment Criteria

The assessment criteria were listed according to details of clinical features found in the Ayurvedic texts and contemporary Medical books. The criteria were grouped as subjective and objective. All the features were recorded before treatment, during each visit and after treatment in the Performa.

Objective & Subjective Criteria

- Pain
- Itching
- Odour
- Tenderness
- Size
- Discharge
- Granulation tissue
- Swelling

Scoring Pattern**Pain**

- 0 – No Pain
 1 – Mild (Localized feeling of pain during movement but tolerable)
 2 – Moderate (Localized feeling of pain not disturbing sleep)
 3 – Severe (Continuous localized feeling of pain which disturbs sleep)

Size

Dimensions were measured using a disposable centimeter ruler by recording L&B as the longest dimensions and the depth was measured with the help of a sterile probe.

Tenderness

- 0 – No tenderness
 1 – Mild (tenderness after squeezing)
 2 – Moderate (tenderness after touching with pressure)
 3 – Severe (tenderness just touching with soft object).

Discharge

- 0 – No discharge / dry dressing
 1 – Scanty occasionally discharge and little wet dressing
 2 – Often discharge and with blood on dressing
 3 – Profuse continuous discharge which needs frequent dressing

Odour

- 0 – No smell
 1 – Bad smell
 2 – Tolerable, unpleasant smell
 3 – Foul smell which is intolerable

Color

- 0 – Equivalent to skin colour
 1 – Pink
 2 – Reddish
 3 – Yellow

Granulation tissue

- 0 – Healthy granulation tissue
 1 – Pale granulation tissue
 2 – Less granulation tissue
 3 – No evidence of granulation tissue

Inflammation

- 0- No inflammation
 1- Mild inflammation
 2- Moderate inflammation
 3- Severe inflammation

Investigations

Hb gm %, TLC, DLC, ESR, Blood Sugar (R)
 Urine:- Routine, Microscopic

Drug Schedule

Manjisthadi Taila was applied to *Vrana* externally morning/evening. in group A

Povidone iodine was applied to *Vrana* externally morning/evening in group B

Duration of Treatment: 30 days or till complete healing of *Vrana* whichever is earlier.

Observation and results

Total 40 patients were registered from OPD & IPD of Department of PG studies in Shalyatantra, JIAR Hospital, Jammu in this study. It is an observational study and all the patients were arranged in two groups of 20 patients each. Group A *Manjisthadi Taila* group, Group B Povidone- Iodine. Each patient was observed thoroughly and noted neatly.

Group A**Table 1: Statistic al analysis of clinical recovery in the signs and symptoms after treatment**

S. No	Signs and Symptoms	Mean Score		% of improvement	SD±	SE±	Z	'p'
		BT	AT					
1	Pain	2.3	0.25	89.13	0.60	0.13	4.05	<0.001
2	Swelling	2.3	0.50	78.26	0.83	0.18	3.88	<0.001
3	Tenderness	2.4	0.55	81.25	0.67	0.15	4.01	<0.001
4	Discharge	0.15	0.00	100	0.48	0.10	1.34	=0.050
5	Colour	2.5	0.45	82	0.75	0.17	3.98	<0.001
6	Odour	2.1	0.00	100	0.85	0.19	3.97	<0.001
7	Granulation tissue	2.55	0.40	84.31	0.67	0.15	0.41	<0.001

Group B**Table 2: Statistic al analysis of clinical recovery in the signs and symptoms after treatment**

S. No	Signs and Symptoms	Mean Score		% of improvement	SD±	SE±	Z	'p'
		BT	AT					
1	Pain	2.1	0.2	90.48	0.91	0.20	3.87	<0.001
2	Swelling	2.5	0.6	76	0.85	0.19	3.88	<0.001
3	Tenderness	2.4	0.50	79.17	0.78	0.17	3.97	<0.001
4	Discharge	0.15	0.00	100	0.48	0.10	1.34	=0.050
5	Colour	2.35	0.45	80.85	0.91	0.20	3.87	<0.001
6	Odour	2.25	0.1	95.5	0.81	0.18	3.97	<0.001
7	Granulation tissue	2.25	0.30	86.6	0.88	0.19	3.87	<0.001

DISCUSSION

Wound healing is completed in three phases: Inflammatory proliferative and remodeling. Granulation, collagen maturation and scar formation⁵ are some of the other phases of wound healing which run concurrently but are independent of each other. *Ropana* is always associated with *Shodhana* because a wound cannot be healed if it is not *Shuddha*.

Hence, the drugs, *Manjistha*, *Haridra*, *Bharangi*, *Tutha*, *Hulhula*, *Padamakam*, *Lodhra*, *Haritaki*, *Yashtimadhu*, *Vidanga*, *Priyal*, *Talispatra*, *Kash*, *Chandan*, *Padamkesar*, *Tinduka* *Ksheeri Patra* having both the properties; i.e. *Shodhana* and *Ropana*⁶, had been selected for this study. After studying their properties, an innovative compound drug on the basis of *Manjistha*, used as a prime healing drug described in Ayurvedic literatures. An attempt was made to explore the *Shodhana* and *Ropana* properties of the trial drug scientifically. *Vrana ropan* involves *Shodhana* followed by *Ropana*, two stages happen practically subsiding local *Shotha* by removal of local *Dhatu dhusti*, followed by initiation of *Ropana* process, i.e., contraction and covering of wound by epithelial layers⁷.

Removal of Local *Dhatu Dushti*

The grading of *Shuddha* wound depends on the amount of *Dushti* present in local *Dhatu*, i.e., *Twaka* and *Mamsa* with *Rakta dhatu*. The trial drugs contained *Lekhana* (scraping), *Shoshana* (absorptive), *Sthambhana*, (coagulation/contraction) and *Rakta Shodhaka* (blood purifier) properties, along with *Samshodhana* (detoxifying cleansing) which provided the desired effect. To achieve the main goal of healing, it is necessary to remove the maximum local *Dushti* or Debridement at the side of *Vrana*. By virtue of *Lakshana Putihara*, *Dahahara*, *Kandughana*. *Vrana Shodhana* and *Vrana Ropana* properties of *Taila*, the local *Dhatu Dushti* is ceased. The 2nd step in the path of healing is to enhance the healing for this purpose *Taila* made easy way. *Taila* possess *Sheeta guna* and enhance the *Rasagni* and *Raktagni* and thus increase the *Ropana*.

Effect on Clinical Features

Ropana (healing) of any *Vrana* (wound) cannot occur without the reduction of the clinical features of *Shotha* (inflammation). Though it is necessary for *Ropana* (healing) of *Vrana* at early stages, it delays the healing if persists for a longer duration. As stated earlier the *Rasa*, *Guna(s)* and *Karma (s)* of the trial drug helped to check the clinical features of the *Vrana*.

Prinana (nutrition), *Dhatu Vardhana* (tissue growth) *Poshana* (nourishment) all activities must be performed by *Madhur rasa* and it helps to contract the wound size by promoting fibrosis and epithelialization. *Vatahara* due to *Snigdha* and *Guru guna*, *Shothahara* and *daha Shamana* (anti-inflammatory) effects was observed due to *Sheeta guna* and *Kashaya rasa* which helped to reduce the inflammation and thus relieved the pain and tenderness. *Rakta shodhana* (purification of blood) was done by virtue of *Tikta* and *Kashaya rasa*. *Pittashamana*, *Varnya* (coloration) and *Twaka prasadana* (to make skin

healthy) actions aided to improve the skin color by improving the local blood circulation. *Sthambhana Karma* was done by *Shoshana guna* of *Kashaya*, *Tikta rasa* and *Vishada guna* along with *Kledohara*, *Rakta Sthambhana* and *Chedana* activities, followed by *Krimighna Karma* (antimicrobial action) which led to prevention of discharge and secretions. *Lekhana*, *Kledahara*, *Chedana* and *Raktashodhaka* properties of *Vishada guna* of *Kshaya rasa* played important role in scraping out the debris and slough of the *Vrana*.

Tannins and anthraquinones are known antioxidants and blood purifiers with anti-inflammatory actions. As the oxidant process hampers the wound healing, antioxidants protect the tissue from the oxidative damage. Tannins also reduce the secretions. Glycosides have anti-infective activity which combated the infection and thus prevented infections in the wound. Tannins, anthraquinones and phytosterols are anti-inflammatory and thus prevented the prolongation of the initial phase and reduced the pain as well as tenderness, redness, swelling like features, which led to progress of the wound toward healing. Tannins and phytosterols promoted the healing process by wound contraction with increased capillary formation and fibroblast proliferation, followed by enhanced rate of epithelialization. Glycosides accelerated the healing process and reduced the scarring as the proposed mechanism of action involves the regeneration of skin through stimulation of stimulus that allowed healing without substantial scar formation.

The statistical data revealed that highly significant results are found in pain, swelling, tenderness, colour, odour and granulation tissue formation in the wound.

Average number of days required for wound healing was lesser in Group-A as compared to Group-B. This indicates that the *Manjisthadi Taila* was effective in clean and healthy ano-rectal and other wounds as a healing compound.

CONCLUSION

It was found that on treatment with *Manjisthadi Taila*, the process of repair was not complicated by infection with microorganism. So, there was no interference with the general health of the patient. The temperature remained normal, the circulatory, gastrointestinal, nervous system and other functions were undisturbed; locally the part was cool, of natural colour and free from pain. It can be concluded that the wound healed within 21 days. Pigmentation similar to that of skin was found as another updating effect which was not skin in Povidone-Iodine group. No untoward effects were observed during the course of treatment.

Hence, from this clinical study, it can be concluded that the drug *Manjisthadi Taila* possess high efficacy in "*Vrana ropana*".

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