



Research Article

www.ijrap.net



A CLINICAL STUDY TO EVALUATE EFFICACY OF NIMBAADYA TAILA IN THE MANAGEMENT OF DUSTA VRANA (CHRONIC ULCER)

Gupta Sudesh^{1*}, Bhat Subrahmanya S², Nayak Jaykrishna²

¹Department of PG Studies in Shalya tantra, Jammu Institute of Ayurveda and Research, Nardni (Raipur) Jammu, India

²Department of PG Studies in Shalya tantra, S.D.M. College of Ayurveda, Udupi, Karnataka, India

Received on: 02/08/12 Revised on: 30/10/12 Accepted on: 10/11/12

*Corresponding author

E-mail: drsudeshgupta@gmail.com

DOI: 10.7897/2277-4343.03638

Published by Moksha Publishing House. Website www.mokshaph.com

All rights reserved.

ABSTRACT

Dusta vranas (Chronic ulcers) are a frequently encountered problem in present era produced commonly as a complication of trauma or pathologic insult and it causes long-term agony to the patient. The issue of chronic ulcers management with Ayurvedic panacea is one of the major areas of research and has come under increased scrutiny. In the present study Nimbaadya Taila is selected which is cited by Acharya Bhela in the context of vrana. It contains Nimba pallava, Aamra pallava, Aamalaki pallava, Bala, Yastimadhu and Gomaya rasa. These drugs possess vrana shodhana and ropana properties. It was used topically in all types of chronic wounds once daily for 30 days or till the healing of the wound whichever is earlier. It is a single blind clinical study; where 20 patients were selected and divided into two groups of 10 patients each. Trial group patient's ulcers were treated with dressing having Nimbaadya Taila. Control group patients ulcers were treated with Hydrogen peroxide and Eusol and dry gauze bandaging. It reduces pain, burning sensation, itching, decreases discharge, edema and helps in gradual improvement in floor and granulation tissue as compared to control group. Hence it can be speculated that Nimbaadya taila possess sufficient efficacy in vrana shodhana and vrana ropana without producing any adverse effects.

Keywords: Dusta vrana, chronic ulcers, Nimbaadya taila, Vrana shodhana, Vrana ropana

INTRODUCTION

Ever since the life originated human being has been susceptible to injury, which made him to think about healing from very early stage of development. Almost every source of life and matter surrounding human beings has been used in some form or other to treat wounds and through a series of clinical experiences; some results were obtained which were transmitted verbally to the respective generations.

In Ayurveda, particularly Sushruta has mentioned various types of vrana¹ and their management², which is of prime importance in any surgical practice/procedure. In recent past brilliant progress of surgery in various fields has immensely reduced the incidence of wound infection by decreasing the impediments associated with wound healing to certain limit. Still wound management continues to be a subject of speculation. After injury, healing is a natural phenomenon and continues in sequential manner until the formation as a healthy scar. Usually nature takes complete care during healing. The defense mechanism of body like phagocytosis and its local enzymatic action on dead tissue help to keep a wound clean. But at times when infection is massive, surface area of wound is very large and slough or necrotic tissue is too much, this auto cleansing mechanism becomes inadequate³. Acharya Sushruta was aware of these facts and has indicated the process by which these impediments can be removed thus paving way for uninterrupted healing. For the management of dusta vrana, he incorporated number of drugs broadly classified into vrana shodhana and vrana ropana. The processes i.e., shodhana and ropana have been therapeutically grouped

under seven headings kashaya, varti, kalka, sarpi, taila, rasakriya and avachoorana⁴.

It is the need of hour to find out a rational and optimal healing compound for the wound management in a better way. Hence, it is important to find out a single and effective formulation that possesses both vrana shodhana and ropana properties. Many studies have been carried out regarding this subject area some of the studies are mentioned here:

(a) Effect of Vajraka taila in the healing of dusta vrana by Dr. Sharang Pani.S in 1985. Ayurvedic College Hyderabad, India

(b) Comparative study of Dhataki Choorana Avachoorana in the management of Dustavrana by Dr. Dane P.R. in 1994. Ayurvedic medical College Akola, Maharashtra, India

(c) Evaluation of efficacy of Nimbataradi Lepa in management of Dustavrana by Dr. Desai Shubada in 2000. Govt Ayurvedic College Bangalore, Karnataka, India

(d) Study of Triphala Kwatha parisheka in the management of Dushta vrana by Dr Manjunath Bhatt in 2003. S.D.M College of Ayurveda, Udupi, Karnataka, India

For this study, six drugs viz. Nimba, Amra palava, Amalaki palava, Bala, Yastimadhu, and Gomaya rasa have been selected from bhela samhita⁵. These drugs were processed and prepared in the form of taila⁶. One of the various therapeutic preparations described by Acharya Sushruta in context of Vrana Shodhana and Ropana drugs. Although vivid description of these drugs is available at several places in Ayurvedic classics, an effort

is made to know the efficacy of these drugs in combination for the management of Dusta vrana.

Aims and objectives

To evaluate the efficacy of nimbaadya taila application in the Management of Dustavrana.

MATERIALS AND METHODS

The work was carried out after obtaining approval from the institutional ethical committee, Shri Dharmasthala manjunatheshwara college of Ayurveda, Ref no: SDMCAU/ACA-49/SYN-29/2006-2007 on 28/12/2006 Udupi, Karnataka, India.

Drug Contents

Nimbaadya taila as cited in Bhela samhita contains tender leaves of Nimba, Amra, Amalaki, Madhuka, Bala and Gomaya rasa and Tila taila. The drugs were identified under supervision of Dr T Shridhar Bairy, Professor, Department of PG Studies in Dravyaguna, SDM College of Ayurveda, Kuthpady- Udupi, Karnataka, India

Method of preparation

The taila was prepared in SDMCA Ayurveda Pharmacy, Udupi, Karnataka, India, under the guidance of Dr Ravinder Angady, Lecturer, Department of Rasashastra and Bhaishjaya kalpana. Above mentioned drugs were taken and made into kalka. Then gomya rasa was added to the moorchita tila taila and paka was done. Later the kalka was mixed with the sneha and paka was done over mrudu agni, till the total water content was evaporated and till samyak sneha paka lakshanaa were seen. Nimbaadya taila was of madhyama paka, which is useful for external application.

Clinical Study

Source of data: In-patients and Out-patients with complaint of dusta vrana from SDM Ayurveda hospital, Udupi, Karnataka, India

Method of collection of data: 20 randomly selected patients were divided into two groups of 10 patients each. Group A (hydrogen peroxide and EUSOL and Dry gauze bandage) and Group B (Nimbaadya taila bandage).

Intervention: The dusta vranas cleaned with hydrogen peroxide and eusol. Nimbaadya taila application done over the ulcer and bandaging done.

Duration of treatment: 30 days

Inclusion criteria: All types of dusta vrana with minimum history of 3 weeks. Vrana which has utsanna mamsa, Asnigdha, Alpasravi, diabetic (under glycemic control), Venous ulcer, Tubercular Ischemic, Tropical, Neurogenic, Aged between 18 - 65 years. Either sex

Exclusion criteria: Malignant ulcer, Patients suffering from signs of gangrene, Patients suffering from HIV and hepatitis and pregnant women.

Assessment criteria: The patient’s response was assessed based on subjective and objective criteria. The subjective parameters of pain, burning sensation, itching, smell and objective parameters of size, tenderness, discharge, surrounding area of ulcer, floor and granulation tissue were recorded on the basis of score adopted with grading (0,1,2,3 and 4). After completion of treatment, assessment of scar was done on the basis of gradation (0, 1,2,3 and 4).

RESULTS

The present study revealed that incidence of Dusta vrana was more common in age group 54-65 years i.e. 35% followed by 25% in 42-53years. Maximum patients were male i.e. 35%. 90% of the patients were Hindus. Maximum number of patients were business men i.e. 25% followed by farmers i.e. 15%. These two accounts for 40% of total. Socio-economic status of patients revealed that maximum number of patients belongs to lower middle class 45% and middle class i.e. 45%, 60% belonging to rural area. Incidence of addiction showed 40% patients were addicted to alcohol and smoking. In 50% of cases, cause of ulcer was venous pathology and in 40% was diabetes. Maximum numbers of dusta vrana were located in lower limbs. 35% of patients were having lakshanas of vatakapha vrana and 20% were vatakapharakta.

DISCUSSION

Wound healing is a normal physiological event which outset immediately after injury and keeps on in sequential manner till the formation of healthy scar. Taila application is one which could be adopted when Vranas have raised granulation, little unctuousness and discharge⁷. Nimbaadya Taila cited by Acharya Bhela in the context of Vrana contains Nimba pallava, Aamra pallava, Aamalaki pallava, Bala, Yastimadhu and Gomaya rasa. All the mentioned drugs in Nimbaadaya Taila possessed Vrana Shodhana property. As Vrana becomes Shudha healing process can be augmented for smooth and uncomplicated healing. These drugs also possessed Vrana Ropana property thus serving the above purpose. Gomaya has kshaya and tikta rasa as mentioned in kaidev nighantu and these rasa’s have kapha and pitta shamaka property⁸.

Table 1: Effect of therapy on different signs and symptoms in patients of Group A

Symptoms	Mean Score		% relief	SD	SE	T	p	
	BT	AT						
SIZE	Length	5.15	2.72	47.0	1.070	0.338	7.183	==<0.001
	Width	3.78	1.48	60.84	1.223	0.387	5.947	==<0.001
	Depth	0.52	0.21	59.61	0.0994	0.0314	9.858	=0.044
Tenderness	2.5	0.4	84.0	0.568	0.180	11.699	==<0.001	
Discharge	1.7	0.4	76.47	0.675	0.213	6.091	==<0.001	
Surrounding area	1.8	0.0	100	0.632	0.200	9.000	==<0.001	
Floor and Granulation	1.8	0.0	100	0.422	0.133	13.500	==<0.001	
Pain	3.1	0.4	87.09	0.675	0.213	12.650	==<0.001	
Burning Sensation	2.3	0.2	91.30	1.197	0.379	5.547	==<0.001	
Itching	1.7	0.1	94.11	1.578	0.499	3.207	=0.011	
Smell	2.0	0.2	90.0	1.317	0.416	4.323	=0.02	

Table 2: Effect of therapy on different signs and symptoms in patients of Group B

Symptoms	Mean Score		% relief	SD	SE	T	P
	BT	AT					
SIZE							
Length	6.62	1.7	74.32	1.251	0.395	12.441	=<0.001
Width	4.0	0.7	82.5	0.935	0.296	11.194	=<0.001
Depth	0.98	0.02	97.95	1.296	0.410	2.242	=0.044
Tenderness	2.5	0.2	92.0	0.483	0.153	15.057	=<0.001
Discharge	2.2	0.0	100	0.632	0.200	11.000	=<0.001
Surrounding area	1.8	0.0	100	0.919	0.291	6.194	=<0.001
Floor and Granulation	1.5	0.0	100	0.707	0.224	6.708	=<0.001
Pain	2.9	0.0	100	0.738	0.233	12.429	=<0.001
Burning Sensation	2.4	0.0	100	0.699	0.221	10.854	=<0.001
Itching	2.1	0.0	100	1.197	0.379	5.547	=<0.001
Smell	1.1	0.0	100	1.370	0.433	2.538	=0.032

BT: Before Treatment, AT: After Treatment, SD: Standard Deviation, SE: Standard Error

Probable mode of action of drug

On the basis of above description and clinical findings probable mode of action of Nimbaadya taila on dusta vrana can be hypothetically postulate.

The drug due to its kashaya rasa checks the excessive reactionary inflammation in earlier phase (pitta kaphapahaa), squeezes out toxins and necrotic tissue (Pidana) and thus checks excessive exudation and connective tissue response (kleda puya sleshama shoshana) and thus facilitates wound healing (ropana). Due to katu rasa, it reduces the local discharge (kleda upshoshana), irritation (kandu prashamana), acts as anti-infective (Krimighana) and discourages excessive granulation tissue formation (vranan avasadyati). Further; all these actions are enhanced by tikta rasa. By its srotoshodhana property due to katu rasa (srotamsi vivrunoti), ushna virya, laghu and teekshana guna it penetrates in deep tissues and debride the wound. Thus after vrana shodhana, ropana karma was facilitated due to madhur vipaka and snigdha guna which further helped in removal of any debris left (madhur srishthvinmutro), helps in growth of destroyed vrana adhisthana (tatra madhur rasa sarva dhatu vardhanam) helps in biosynthesis of mucopolysaccharides and collagen due to its Jeevaniya, bruhumaniya, preenam property and thus facilitate ropana by regeneration and organization of various tissue (ksheenakshata sandhankaro).^{9,10}

CONCLUSION

Observation, analysis and results of the present study entitled–“A clinical study to evaluate the efficacy of Nimbaadya taila in the management of dusta vrana (Chronic ulcers)” can be concluded as follows:-

- Nimbaadya taila mentioned by Acharya Bhela in the context of Vrana chapter is found efficacious in wound healing. The drug initially acts as a debriding agent-removing slough and necrotic tissues and subsequently paves way for smooth and uninterrupted healing of the ulcer.
- Topical application of Nimbaadya taila reduces pain, burning sensation and itching. It also decreases discharge, edema and helps in gradual improvement in floor and granulation tissue.
- The semi occlusive dressing of Nimbaadya Taila provides moist environment that enhances epithelialization, prevent scab formation and can be

easily removed from wound surface without causing pain or damage to the new growing epithelium.

Hence, from the present clinical study, it can be speculated that Nimbaadya Taila possess sufficient efficacy in Vrana Shodana and Vrana Ropana without producing any adverse effects.

ACKNOWLEDGEMENT

I would like to thank Dr S Subrahmanya bhat, Assistant professor, SDM College of Ayurveda, Udupi, Karnataka for their support throughout this work. I would also like to thank Dr Muralidhar Sharma (Professor) and Dr Jayakrishan nayak (Lecturer), SDM College of Ayurveda, Udupi, Karnataka for their valuable guidance, continued inspiration and tireless encouragement throughout the course of study. It's my privilege to thank Dr T Shridhar Bairy, Professor, Department of PG Studies in Dravyaguna, SDM College of Ayurveda, Kuthpady Udupi, Karnataka and Dr Ravindra Angady (lecturer), Dept. of Rasashastra and Bhaishjaya kalpana for identifying plants and providing required facilities and supervision throughout the process and preparation of Nimbaadya taila.

REFERENCES

1. Sushruta, Sushruta Samhita , Ayurveda Tatwa Sandeepika Hindi Commentry, Edited by Kaviraj Ambika Dutta Shastri, Chikitsa Sthana, Dvivranayee Adhyaya-1/3, Chaukhamba Sanskrit Sansthan, Varanasi, Edition -11, 1997, p 1.
2. Sushruta, Sushruta Samhita, Ayurveda Tatwa Sandeepika Hindi Commentry Edited by Kaviraj Ambika Dutta Shastri, Chikitsa Sthana Sadhyovrana Adhyaya -2/86-88, Chaukhamba sanskrit Sansthan, Varanasi, Edition-11, 1997, p 26.
3. Clark RA. Cutaneous wound repairs. In Goldsmith LA, editor. Physiology, Biochemistry and Molecular Biology of Skin. New York: Oxford University Press; 1991. p 576
4. Sushruta, Sushruta Samhita, Ayurveda Tatwa Sandeepika Hindi Commentry , Edited by Kaviraj Ambika Dutta Shastri, Chikitsa Sthana Dvivranayee Adhyaya-1/9, Chaukhamba Sanskrit Sansthan, Varanasi, Edition-11, 1997, p 5.
5. Bhela Samhita(Moola matra), samskarta Sri Girijadayalu Shukla, Chaukhamba Bharti, Varanasi , Edition 1999, p 225-229.
6. Sushruta, Sushruta Samhita, Ayurveda Tatwa Sandeepika Hindi Commentry, Edited by Kaviraj Ambika Dutta Shastri, Chikitsa Sthana, Dvivranayee Adhyaya-1/8, Chaukhamba Sanskrit Sansthan, Varanasi, Edition-11, 1997, p 5.
7. Sushruta, Sushruta Samhita, Ayurveda Tatwa Sandeepika Hindi Commentry, Edited by Kaviraj Ambika Dutta Shastri, Chikitsa Sthana Dvivranayee Adhyaya-1/57, Chaukhamba Sanskrit Sansthan, Varanasi, Edition-11, 1997, p 10.
8. Kaidev nigantu, By P.V. Sharma and Dr Guruprasad Sharma, Chaukhamba Vishva Bharathi Academy, Varanasi, Edition 2001, Mootravarga-449, p 400

9. Vagbhata, Ashtang Hrudaya Sutrasthana-1, published by Harisree hospital, Mannuthy P.O, Thrissur Dist, Kerala State, So.10/20-21, p 277
10. S. Das, A Concise Text book of Surgery, 3rd edition, 2001, Published by Dr. S Das., 13, Old Mayors' Court, Calcutta, p 1-5.

Cite this article as:

Gupta Sudesh, Bhat Subrahmanya S, Nayak Jaykrishna. A clinical study to evaluate efficacy of Nimbaadya taila in the management of Dusta vrana (Chronic ulcer). Int. J. Res. Ayur. Pharm. 2012; 3(6):862-865

Source of support: Nil, Conflict of interest: None Declared