

## A COMPARATIVE CLINICAL STUDY TO EVALUATE THE EFFECT OF *SAPTACCHADA (AL-STONIA SCHOLARIS) KSHARA PRATISARANA AND JATYADI GRITHA IN DUSHTAVRANA (NON-HEALING ULCERS)*

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<https://doi.org/10.46607/iamj0908112020>

(Published online: November 2020)

### Open Access

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Article Received: 30/10/2020 - Peer Reviewed: 10/11/2020 - Accepted for Publication: 12/11/2020



### ABSTRACT

*Dushtavrana* is a commonly and often encountered problem faced in surgical practice. The presence of *Dushtavrana* worsens the condition of the patient with different complications which may become fatal and life threatening. Local factors on wound like slough, infection and foreign body which affect the normal process of healing. A healthy and fresh wound in a normal body heals earlier with minimal scar as compared with contaminated wound. Therefore, in the present study all efforts are made towards to keep the wound clean during various stages of healing. Good wound healing with Minimal Scar formation with minimal pain effectively is the prime motto of every surgeon. *Acharya Sushruta* has explained 60 procedures for the management of *Vrana* at different stage. *Kshara Karma* is one among them which is mentioned by *Acharya Sushruta* and which is indicated in *Dushtavrana* due to its *Chedana*, *Bhedana*, *Lekhana* & *Tridosghna* properties. Which does the *Shodhna* of *Dushtavrana*.

**Keywords:** *Dushtavrana*, *Saptacchada Pratisaraniya Kshara*, Non healing ulcer

## INTRODUCTION

*Shalyatantra*, the science of ancient Indian surgery is a highly skilled branch of *Ayurveda* which discuss in detail about various surgical procedures. Each individual taking birth on this earth definitely suffer from pain of the first assault on the umbilical cord. Probably due to this reason *Acharya Sushruta* has given prime importance to *Vrana* and has explained various type of *Vranas* and its management in a beautiful manner. While explaining the scope of *Shalyatantra* itself, *Acharya Sushruta* has mentioned “*Vrana Vinishcayartham*”<sup>1</sup> as a major part of *Shalyatantra*.

The art of healing of wounds and ulcers has been a major challenge to the medical profession since Vedic era. Normally, healing is a natural process where the body attempts to restore the integrity of the injured part. But at times, certain factors hamper the natural healing process like contamination by foreign bodies, microorganisms, certain local factors, malnutrition etc. Such contamination delays the healing and the wound fails to heal on time and become chronic, non-healing ulcers i.e, *Dushtavrana*. *Acharya Sushruta* recognized that the success of treatment depends upon the care given to the patient. So, in order to attain the early and uncomplicated healing, the *Vrana* should be protected from *Dosha Dushti* and from various microorganisms and the patient should follow certain *Ahara- Viharas*. According to *Acharya Sushruta*, a *Vrana* changes to *Dushtavrana* either due to vitiated and accumulated *Doshas* or due to improper treatment given to *Doshaja* and *Agantuja Vrana*.<sup>2</sup>

As science advanced, newer remedies are tried for the speedy recovery, but the wound healing procedures mentioned by *Acharya Sushruta* still holds its place. In the modern medical practice, a wound is said to be healed when the epithelialisation is complete. But *Acharya Sushruta* has emphasized “*Vaikrutapaham*”<sup>3</sup> for bringing back the normal colour, surface and hair even after healing of an ulcer. In addition, *Acharya Sushruta* has elaborated the *Shasti Upakramas*<sup>4</sup> (60 procedures) for the management of *vrana* in different stages. The 60 procedure consist of medical therapies, *panchakarma* therapies, surgical

therapies, parasurgical therapies and even *Raksha karmas* also.

*Kshara karma* is one of the para surgical procedures mentioned in *Shastiupakramas* which helps in the *So-dhana* and *Ropana* of *Dushtavrana*. *Kshara* is a medicament which is obtained from the ash of different plants and it does the *Shodhana* of *Dushtavrana* due to its *Ushna*, *Teekshana* properties. *Acharya Sushruta* specifically mentioned that *Kshara Pratisarana* in case of *Vrana*. *Jatyadi Gritha* is a classical *Gritha* Preparation which is specially indicated for the *Shodhana* and *Ropana* of *Vrana*. The *Shodhana* and *Ropana* drugs used in *Jatyadi Ghritha* is found very effective in reducing pain, discharge and edema of the surrounding tissues and the drugs act as debriding agent, removing slough and necrotic material from the wound and thus promotes healing. The main intention of this study was *Vrana Shodhana* by *Kshara Pratisarana* followed by *Jatyadi Ghritha* application.

### Material and Methods

#### Source of Data

1. **Literary source** - All the *Ayurvedic* texts, Contemporary *Ayurvedic* literatures, textbooks on Modern Medicine, internet sources about the disease, drug and procedure was reviewed and documented for the intended study.

2. **Drug Source** - Stem bark of *Saptacchada* will be collected and dried for preparing *Kshara*. *Kshara* and *Jatyadi Ghritha* were prepared in Karnataka Ayurveda Medical College pharmacy.

3. **Sample source**- Patients with *Dushtavrana* are selected randomly from the outpatient department of Karnataka Ayurveda Medical College & Hospital, Mangalore and from other camps and referrals.

#### Materials required for the Study:

- Dried stem bark of *Alstonia Scholaris* Linn.
- Facilities of Karnataka Ayurveda Medical College Pharmacy for the preparation of *Kshara* and *Jatyadi Ghritha*.
- *Saptacchada Kshara*, *Kshar karma Shalaka*, sterile cotton gauze, *Nimbu swarasa*, *Jatyadi gritha*, Normal saline & Povidone iodine ointment etc.

• Facilities of Karnataka Ayurveda Medical College Hospital and other sources.

**Method of Collection of Data:**

a) **Sample Size:** • For the present study, 60 patients fulfilling the diagnostic and inclusion criteria of either sex were selected. They were assigned into two Group A & B with 30 patients in each group.

b) **Group A:** 30 patients were managed by *Saptacchada Kshara Lepa* once, followed by bandaging with *Jatyadi Ghritha*

**Group B:** 30 patients were managed by povidone iodine ointment.

**c) Inclusion Criteria:**

- Sex – Either sex.
- Age - Preference was given for the age group 20-50 years, but during the course of study patient’s upto 60 years without any systemic disorders were also included.
- Established case of *Dusthavrana*.

**d) Exclusion Criteria:**

- Patients Suffering from Tuberculosis, AIDS / HIV.
- Patients with malignancy.
- Arterial Ulcers.
- Leprotic ulcers.
- Ulcers situated over joints.

Procedure and design of the study:

**Materials required:**

*Saptacchada Kshara*, *Kshara Karma Shalaka*, sterile cotton swab, pad and gauze. *Nimbu Swarasa*, *Jatyadi Gritha*, Normal Saline, Povidone iodine ointment, sterile glove, bandage cloth.

**Design of the Study:**

Group A – 30 patients were managed with *Saptacchada Kshara Pratisarana* once, followed by *Jatyadi Gritha* bandage.

*Poorva Karma:* Cleaning of the ulcer was done with normal saline.

*Pradhana Karma:* *Lekhana* was done in *vrasthanana* in some cases as per the indication. *Sapatcchada Kshara Pratisarana* is done with *Kshara karma Shalaka* over the *DushtaVrana* After 100 *Matra Kala*, *Kshara* was wiped off with sterile gauze. Then the ulcer was washed with *Nimbu Swarasa*. The procedure was repeated in those cases where *Samyak Kshara Dagdha Lakshana* were not seen.

*Paschat Karma:* After *Kshara karma*, dressing was done daily with *Jatyadi Gritha* for the first seven days and later on alternate days up to 30 days.

Parameters were noted on 0<sup>th</sup>, 10<sup>th</sup>, 20<sup>th</sup> and 30<sup>th</sup> day. Complete assessment was done in 30 days. Study duration: 30 days.

Follow up: 10 days after study duration.

**Group B** – 30 Patients were managed with povidone iodine ointment.

*Poorva Karma:* Cleaning of the ulcer was done with normal saline.

*Pradhana Karma:* Povidone iodine ointment was applied over the wound and dressing was done with sterile gauze once daily for the first seven days later on alternate days.

*Paschat Karma:* Parameters were noted on 0<sup>th</sup>, 10<sup>th</sup>, 20<sup>th</sup> and 30<sup>th</sup> day. Complete assessment was done in 30 days.

Study duration – 30 days.

Follow up: 10 days after study duration

**Diagnostic Criteria:** Diagnosis were made on the basis of *Lakshana* of *Dushtavrana* like

- *Deerghakaleena*
- *Pooti*
- *Pooya*
- *Ateevavedana*
- *Daha*
- *Kandu*
- *Shopha*
- *Shonitashrava*

Assessment criteria:

Assessment will be done based on subjective and objective parameters.

**Table 1:** Assessment Criteria

Subjective	objective
<ul style="list-style-type: none"> <li>• Pain</li> <li>•</li> <li>• Itching</li> <li>• Burning sensation</li> </ul>	<ul style="list-style-type: none"> <li>• Size of ulcer</li> <li>• Appearance of margin, edge and floor</li> <li>• Discharge</li> <li>• Granulation tissue</li> <li>• Slough</li> <li>• Surrounding area of ulcer</li> </ul>

Assessment was done using **Bates and Jensen wound assessment tool** and its Parameters.

Laboratory investigations:

- HB%
- RBS
- ESR

Total Leukocyte count • Differential leukocyte count

**Other investigations**

- Culture and sensitivity test of wound discharge (if necessary)
- Histopathology examination (if necessary)

**Sample Size Estimation**

Sample size is calculated using G Power software with level of significance  $\alpha=5\%$  Power  $(1-\beta) = 80\%$  Effect size = 0.99

The minimum sample size required in each group is 30. The total sample size is 60. 60 patients with a definite diagnosis of fulfilling the diagnostic, inclusion criteria of *Dushtavrana* were selected for the study irrespective of sex, age and religion from the OPD and

IPD of Karnataka Ayurveda Medical College and Hospital or its associated hospitals and grouped into 2 groups (Group A and group B) of size each 30. Group A with *Saptacchada Kshara Pratisarana* followed by application of *Jatyadi Ghritha* and Group B with Povidone Iodine ointment study were done. The selection of the patients was done by lottery method in each group.

**RESULTS**

**Observation and Result**

A total of 60 subjects fulfilling the inclusion criteria were randomly selected for the study. They were divided into two groups as group A and group B, consisting of 30 subjects in each group. Data related to Age, Sex, Religion, Socio-economic status, Addiction, Chronicity of ulcer, site of ulcer, *Adhithana* of ulcer, Cause and type according to *Dosha* involvement 60 patients were collected and observed.

**Demographic Data –**

Detail of data collection have been presented in the following table

**Table 2:** Distribution of total number of patient.

Patients	Number of patients in Group A	Number of Patients in Group B	Total
Registered	30	30	60
Completed	30	30	60

**Age:** In present Study age group was in between 20 to 60 years old. 2% of patients were in the age group of 20-30 year, 25% of patients were in the age group of 31- 40 year, 48% of patient were in age group of 41-50 year and 25% of patient were in age group of 51-60 years.

**Sex:** In the study of 60 patients 33.33% were female and 66% were male.

**Religion:** On observing the religion of the patient’s maximum is 80% of patients were Hindus, whereas 11.67% patients were Muslim, and 8.33% patients were Christian.

**Socio economy status:**

In study 6.67% of patients were reported poor, 81.66% were reported from middle class and 11.66% were reported rich.

**Addiction:** In the study out of 60 patients, 11.66% were addicted to alcohol, 25% patients were addicted to smoking, 1.67% were addicted to tobacco and 61.67% was not having any addiction.

**Chronicity:** Among 60 patients selected for the study, 63.33% patients had the time duration between 1 to 4 months while 35 % patients were having time duration between 5 to 8 months and 11.67% patients were having the time duration between 9 to 12 months.

**Diet:** Among 60 patients selected for the study maximum i.e., 63.63% are mixed and 36.67 % are vegetarian.

**Site:** Among 60 patients selected for the study 98% of the patient were suffering from lower limb ulcer and 2% were suffering from upper limb.

**Adhithana:** Among 60 patients selected for the study, in 50% of patients *Adhithana* involved was *Twak* and 50% patients *Adhithana* was involved *Twak Mamsa* and 0 % patients *Adhithana* was *twak Mamsa sira*

**Type:** Among 60 patients selected for the study, 63.33% patients were diagnosed as *Vata-Kapha Vrana*, 35% patients were diagnosed as *Kapha-Pitta Vrana* and 1.67% were diagnosed as *Vata-Pitta Vrana*.

**Cause:** Among 60 patients selected for the study, 51.67% ulcer were formed due to Trauma, 28.33% due to Varicosity, 18.33% due to Diabetic and 1% due to Pressure sore.

**Results:** This study was carried out on 60 patients of *Dushtavrana* by dividing them into two groups which

comprised of 30 patients (selected randomly). Group A (trial) was treated with local application of *Saptacchada Kshara* and *Jatyadi gritha* and Group B was treated with local application of *Povidone Iodine* for a period of 30 days. For the assessment of effect of treatment Bates and Jensen wound assessment tool and subjective parameters like Pain, itching, burning sensation, smell is considered on before treatment, 10<sup>th</sup>, 20<sup>th</sup>, and 30<sup>th</sup> day of treatment. Effects of treatment (between group A and group B) were computed by grading and finally the overall effect of the treatment (before and after) were statistically analysed (Non Parametric tests like Mann Whitney to compare the difference between the group) form the data available for significance.

**Effect of treatment in trial group and control group on Parameters of Bates and Jansen wound assessment tool of *Dushtavrana* are as Follows:**

**Table 3:** Group A - Before Treatment

parameters	Sample size	median	MR	SR	Mann Whiteny	P value
Size	30	3.0	30.37	911.00	446.00	0.949
Depth	30	3.00	28.65	859.50	394.50	0.352
Edge	30	4.00	31.97	959.00	406.00	0.473
Necrotic tissue type	30	3.00	25.20	756.00	291.000	0.005
Necrotic tissue amount	30	3.00	30.43	913.00	448.000	0.975
Exudate size	30	4.00	30.50	915.00	450.00	1.000
Exudate amount	30	4.00	28.28	848.50	383.500	0.171
Skin color surrounding wound	30	4.00	31.53	946.00	419.00	0.619
Peripheral tissue edema	30	4.00	29.08	29.08	407.500	0.478
Granulation tissue	30	4.00	34.70	1041.00	324.00	0.047
Epithelialization	30	4.00	36.18	1085.50	324.000	0.047

**Table 4:** Group A - After treatment

parameters	Sample size	median	MR	SR	Mann Whiteny	P value
Size	30	1.0	24.17	725.00	260.00	0.002
Depth	30	1.0	21.92	657.50	192.500	0.000
Edge	30	1.0	20.68	620.50	155.50	0.000
Necrotic tissue type	30	1.00	17.20	516.00	51.000	0.000
Necrotic tissue amount	30	1.00	18.55	556.50	91.500	0.000
Exudate size	30	1.00	17.58	527.50	62.500	0.000
Exudate amount	30	1.00	18.60	558.00	93.00	0.000
Skin color surrounding wound	30	1.00	18.30	549.00	84.000	0.000
Peripheral tissue edema	30	1.00	19.13	19.13	109.000	0.000
Granulation tissue	30	1.00	20.28	608.50	143.500	0.000
Epithelialization	30	1.00	21.87	656.00	143.500	0.000

**Table 5:** Group B - Before treatment

parameters	Sample size	median	MR	SR	Mann Whitney	P value
Size	30	3.00	30.63	919.00	446.00	0.949
Depth	30	3.50	32.35	970.50	394.50	0.352
Edge	30	4.00	29.03	871.00	406.00	0.473
Necrotic tissue type	30	4.00	35.80	1074.00	291.000	0.005
Necrotic tissue amount	30	4.00	30.57	917.00	448.00	0.975
Exudate size	30	4.00	30.50	915.00	450.00	1.000
Exudate amount	30	4.00	32.72	981.50	383.500	0.171
Skin color surrounding wound	30	1.00	18.30	549.00	84.00	0.000
Peripheral tissue edema	30	4.00	31.92	31.92	407.500	0.478
Granulation tissue	30	4.00	26.30	789.00	324.000	0.047
Epithelialization	30	3.00	24.82	744.50	324.000	0.047

**Table 6:** After treatment group B

parameters	Sample size	median	MR	SR	Mann Whitney	P value
Size	30	2.00	36.83	1105.00	260.00	0.002
Depth	30	32.00	39.08	1172.50	192.500	0.000
Edge	30	2.00	40.32	1209.00	155.50	0.000
Necrotic tissue type	30	2.00	43.80	1314.00	51.000	0.000
Necrotic tissue amount	30	2.00	42.45	1273.50	91.500	0.000
Exudate size	30	3.00	43.42	1302.50	62.500	0.000
Exudate amount	30	3.00	42.40	1272.00	93.00	0.000
Skin color surrounding wound	30	2.00	42.70	1281.00	84.00	0.000
Peripheral tissue edema	30	2.00	41.87	41.87	109.00	0.000
Granulation tissue	30	2.00	40.72	1221.50	143.500	0.000
Epithelialization	30	2.00	39.13	1174.00	143.500	0.000

**Table 7:** Effect of *Saptacchada Kshara* and Povidone iodine on *Gandha* (Smell) between the groups (Mann Whitney)

	Group	N	Median	MR	SR	Mann Whitney	P value
BT	Group A	30	3.00	29.03	871.00	406.000	0.483
	Group B	30	3.00	31.97	959.00		
10 <sup>th</sup> D	Group A	30	2.00	22.32	669.50	204.50	0.000
	Group B	30	3.00	38.68	1160.50		
20 <sup>th</sup> D	Group A	30	1.00	21.03	631.00	166.00	0.000
	Group B	30	2.00	39.97	1199.00		
30 <sup>th</sup> D	Group A	30	1.00	18.42	552.50	87.500	0.000
	Group B	30	2.00	42.58	1277.50		

**Table 8:** Effect of *Saptacchada Kshara* and Povidone iodine on *Kandu* (Itching) between the groups (Mann Whitney) –

	Group	N	Median	MR	SR	Mann Whitney	P value
BT	Group A	30	4.00	35.65	1069.50	295.500	0.009
	Group B	30	3.00	25.35	760.50		
10 <sup>th</sup> D	Group A	30	3.00	24.10	723.00	258.00	0.001
	Group B	30	3.00	36.90	1107.00		

20 <sup>th</sup> D	Group A	30	2.00	22.82	684.50	219.50	0.000
	Group B	30	2.00	38.18	1145.50		
30 <sup>th</sup> D	Group A	30	1.00	20.40	612.00	147.00	0.000
	Group B	30	2.00	40.60	1218.00		

**Table 9:** Effect of *Saptacchada Kshara* and Povidone iodine on *Vedana* (Pain) between the groups (Mann Whitney)

	Group	N	Median	MR	SR	Mann Whitney	P value
BT	Group A	30	4.00	33.00	990.00	375.00	0.216
	Group B	30	3.00	28.00	840.00		
10 <sup>th</sup> D	Group A	30	3.00	25.05	751.00	286.50	0.009
	Group B	30	3.00	35.95	1078.00		
20 <sup>th</sup> D	Group A	30	2.00	21.70	651.00	186.00	0.000
	Group B	30	2.00	39.30	1179.00		
30 <sup>th</sup> D	Group A	30	1.00	21.70	651.00	186.00	0.000
	Group B	30	2.00	39.30	1179.00		

**Table 10:** Effect of *Saptacchada Kshara* and Povidone iodine on *Daha* (Burning Sensation) between the groups (Mann Whitney):

	Group	N	Median	MR	SR	Mann Whitney	P value
BT	Group A	30	4.00	35.65	1069.50	295.500	0.009
	Group B	30	3.00	25.35	760.50		
10 <sup>th</sup> D	Group A	30	3.00	24.10	723.00	258.00	0.001
	Group B	30	3.00	36.90	1107.00		
20 <sup>th</sup> D	Group A	30	2.00	22.82	684.50	219.50	0.000
	Group B	30	2.00	38.18	1145.50		
30 <sup>th</sup> D	Group A	30	1.00	20.40	612.00	147.00	0.000
	Group B	30	2.00	40.60	1218.00		

## DISCUSSION

**Discussion on Clinical Study:** The study was carried out in 60 patients of *Dushta Vrana* in two groups. In Group A (trial group) initially the ulcer was cleaned with Normal Saline solution. Later *Saptacchada Kshara* was applied with *Darvimukha Shalaka* over the ulcer and kept for 100 *Matrakaala*, after 100 *Matrakaala* it was washed with *Nimbu Swarasa* and *Jatyadi Gritha* bandage was done. The procedure was repeated in those case where *Samyak Kshara Dagdha Lakshanas* was not seen. After *Kshara Karma* dressing was done daily for next 1 week and after that on alternate days upto 30 days. In control group ulcer was cleaned with normal saline and povidone-iodine ointment was applied over the wound and dressing was done with sterile gauze once daily for 1 week and after that on alternate days upto 30 days. Total of 60 patients suffering from *Dushta Vrana* were registered in the study.

- Total patients registered in study: 60
- Patients subjected to *Saptacchada Kshara Pratisarana*: 30
- Patients subjected for Povidone Iodine application: 30
- Completed: 60
- Drop out: 0

**Discussion on Result (Bates and Jansen Tool Analysis):** For the Size of Ulcer Group A showed significant improvement by reducing the size compared to Group B on 20<sup>th</sup> day. The possible mechanism could be *Tikta* and *Kashaya rasa*, *Singdha guna* and *Katu vipaka*. For the depth of ulcer and Edge Group A showed significant improvement by reducing the depth and Edge compared to Group B on 20<sup>th</sup> day of the treatment. The possible mechanism could be *Ksharana* and *Kshanana* properties of *Saptacchada Kshara*. For the Necrotic tissue type and amount

Group A showed Significant reduction in type and amount on 10<sup>th</sup> day of the treatment. The possible mechanism could be due to *Chedana, Bhedana, Lekhana* properties of *Saptacchada Kshara* collectively helped in removal of Necrotic tissue. For the Exudate type and amount Group A showed significant reduction in compared to Group B on 20<sup>th</sup> day of the treatment. The Possible mechanism could be due to *Stambhana, Shoshana and Ropana* properties of the *Saptacchada Kshara*. For the skin colour surrounding the Wound Group A showed significant reduction compared to group B on 20<sup>th</sup> day of the treatment. The possible mechanism could be due to *Tridoshagna* properties of *Saptacchada*. For the Peripheral tissue edema and induration Group A showed significant reduction Compared to group B on 20<sup>th</sup> day of the treatment. The possible mechanism could be due to *Vilayana* and *Shothagna* Properties of *Saptacchada Kshara*. For the Granulation tissue there was a significant improvement in Group A compared to Group B on 20<sup>th</sup> day of the treatment. The *Kashaya, Tikta Rasa, Lekhana, Krimihara, Kaphahara* and *Medohara* properties helped in *shodhana* of *Vrana* and *Katu Vipaka* in *Ropana* and hence these qualities would have helped in proper growth of granulation tissue. The slough is due to increase in collagen and decrease in vascularity and main obstacle for formation of unhealthy granulation tissue along with infection in a Wound/ *Dushta Vrana*. *Saptacchada Kshara* has *Tikta & Kshaya Rasa* and properties like *Lekhana, Shodhana, Dharana, Vilayana* which leads to *Shodhana* of *Vrana*. Thus, increase the vascularity and does the proliferation of fibroblast and neovascularisation which helps in formation of granulation tissue. And due to granulation, there will be formation of keratocyte which helps in the epithelialisation.

#### **Probable mode of action on symptoms:**

**Effects on Vedana (Pain):** pain was mainly due to presence of infection, poor local circulation, destruction of tissue, and due to presence of slough. *Chedana, Bhedana, Lekhana, Dharana* properties of *Kshara* removed slough and other unwanted tissues so

only there will be reduced infection and improvement in circulation and reduced pain.

**Effects on Daha (Burning sensation):** In nonhealing ulcers, due to poor local circulation, there was hypoxia to the nerve ending resulting in burning sensation. *Kshara* removed slough and other unhealthy tissues from the ulcer with its *Lekhana, Shodhana, Vilayana, Pachana* and *Teekshna* properties. Due to liquefaction of *Kapha* and *Medas* because of *Shodhana, Vilayana* and *Medohara* properties of *Kshara* so *Srotosodhana* and improved local circulation reduced burning sensation and pain.

**Effects on Kandu (Itching):** itching will be there due to presence of infective organisms, slough and other exudates. Itching was reduced due to the *Kaphagna, Krimighna, Lekhana, Shoshana* and *Shodhana* properties of *Kshara*.

**Effects on Srava (Discharge):** *Shodhana* and *Shoshana* property of *Kshara* dried the secretions and reduced secretions.

**Effects on Gandha (Smell):** Smell will be there due to presence of *Ama, Kapha, Krimi* and *Medas*. Smell was reduced due to the *Kaphagna, Medohara, Krimighna, Amahara, Tridoshagna* properties of *Saptacchada Kshara*.

#### **Discussion on Probable mode of action of Saptacchada on Dushta Vrana:**

*Saptacchada (Alstonia Scholaris Linn)* is having *tridoshagnahara, Kushtagna, Pachana* Properties which helped in reducing the symptoms of *Dushta Vrana*. In addition, recent studies had proved the Antimicrobial, wound healing. Anti-inflammatory activity of *Saptacchada* stem bark. Because of this property it helped in the *Shodhana* of *Dushta Vrana*.

#### **Discussion on probable mode of action of Prekshepaka Dravyas used in Kshara:**

*Chitraka* and Limestone (CaCo<sub>3</sub>) are being used a *Prekshepaka Dravyas* for the preparation of *Kshara*. These drugs are having *Katu, Tikta Rasa, Laghu, Ruksha, Teekshna Guna, Ushna Veerya* and *Katu Vipaka* these all are similar properties as that of *Kshara*. Hence *Chitraka* helped in increasing the potency of *Kshara* and did the *Shodhana* of *Dushtavrana*. Lime comes under *SudhaVarga*. Its properties

are *Kshariya*, *Deepana* and *Pachana*, which is similar to *Kshara*.

### Discussion on probable mode of action of *Jatyadi gritha*:

The *shodhana* and *Ropana* drugs in *Jatyadi gritha* was found very effective in *Dushta Vrana*. Most of drugs in *Jatyadi gritha* are having *Tikta* rasa, so it is *raktaprasadaka*. Most of the drugs are having *Krimighna* properties which helped in *Dushta Vrana*. The *Shodhana* drugs on topical application reduced pain, discharge, and edema of the surrounding tissue. *Vrana Ropana* property of *Jati*, *Patola*, and *Sikta* helped in healing

### CONCLUSION

Following conclusions are drawn on the basis of the conceptual analysis and observation made in the clinical study conducted to evaluate the effect of *Saptacchada Kshara Pratisarana and Jatyadi Gritha* in *Shodhana* and *Ropana* of *Dushta vrana*. *Dushta Vrana* is a chronic illness which is having the similar features as that of chronic non healing ulcer according to modern texts. The features of *Dushta Vrana* are *Athisamvriha*, *Athivivriha*, *Athikathina*, *Atimridu*, *Utsanna*, *Avasanan*, *Vedana*, *Daha*, *Kandu*, *Deergakalanubandha* etc which needs proper *Shodhana* and *Ropana*. *Kshara* is considered best among *Shastra* and *Anushastra*. Due to its *Chedana*, *Bhedna*, *Lekhana*, *Tridoshaghna* properties and *Teekshna Guna*, it removes slough and other unhealthy granulation tissue from the ulcer and does the debridement of ulcer and promotes easy healing. *Kshara* is the best substitute for surgical debridement of non-healing ulcers. It is a simple, cost effective procedure, which can be advocated easily, without much discomfort to the patients. *Kshara Pratisarana* can be done in cases where surgical debridement is contraindicated. The application was the added benefit to the study due to the *Shodhana* and *Ropana* drugs used in *Jatyadi Gritha*. In the study, after statistical analysis of the subjective and objective parameters before and after treatment, it was found that effect of *Saptacchada Kshara* and *Jatyadi Gritha* is better in managing *Dushta Vrana* as compared to povidone iodine. The results obtained

were found very encouraging. Hence, it can be concluded that the application of *Kshara* is effective in doing *Shodhana* and *Ropana* of *Dushtavrana*.

Thus, our great *Acharyas* observation on the modality and the drugs of the wound healing stand valid even today.

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Source of Support: Nil

Conflict of Interest: None Declared

How to cite this URL: Divya Maheshbhai Bhalodi & Udaya D.K: A Comparative Clinical Study To Evaluate The Effect Of Saptacchada (Al-Stonia Scholaris) Kshara Pratisarana And Jatyadi Gritha In Dushtavrana (Non-Healing Ulcers). International Ayurvedic Medical Journal {online} 2020 {cited November, 2020} Available from: [http://www.iamj.in/posts/images/upload/5004\\_5012.pdf](http://www.iamj.in/posts/images/upload/5004_5012.pdf)