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## Role of *Kasishadi Churna* in Hypergranulation of Wound- A Case Study

Gunjan Keshri<sup>1\*</sup> and Anil Chaudhary<sup>2</sup>

<sup>1,2</sup>Government Ayurveda Hospital, Sakkardara Square, Nagpur, MS, India

### ABSTRACT

Wound is a break in the integrity of the skin or tissues due to external violence or some mechanical agency. Wound healing occurs with the help of granulation tissue and epithelization. Hypergranulation tissue is excessive granulation tissue that hinders the normal healing process by preventing re-epithelization and wound contraction Acharya Sushruta mentioned Avasadna dravya for such conditions of vrana, which include both herbal and mineral drugs. These are Kasish, Hartala, Manhshila, Manikya, Chameli pushpa, Shirish and Karanj fruit, Saindhav, Kinva, Kukkutanda kapala. Kasishadi churna is a combination of herbo-mineral drugs which are having properties of Lekhan, Shodhana, and Ropana properties. It is a procedure of debridement of wound.

### KEYWORDS

*Avasadna dravya, Vrana, Lekhan, Shodhana, Ropana*



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## INTRODUCTION

A wound is a break in the continuity of the covering skin or mucous membrane due to any trauma or underlying pathology. Wound healing is a process where the skin repairs itself after injury with the help of granulation tissue and epithelisation. Granulation tissue is new connective tissue and blood vessels that forms in a wound during the healing process. It grows from the base of wound and fills the wound. Thus facilitating epithelisation and promotes wound closure<sup>3</sup>. Hypergranulation is an unusual healing response, presenting as an overgrowth of fibroblasts and endothelial cells with a similar structure to healthy granulation tissue but in excess. Acharya Sushruta stated astavidha upakrama in the management of vranashopha in Misharakadhyaya<sup>1</sup>. Non-proliferation of granulated or hypergranulated tissue are two factors which can hinder the process of wound healing. For such conditions Acharya Sushruta stated Utsadana and Avsadana Upakrama in astavidha upakrama. Hypergranulation can be managed either surgically or non-surgically. Surgically debridement done under local anaesthesia and non-surgically Lekhana karma or scraping is carried out with Sagpatra and wiping can be done with cotton gauze as

well as it can be done with the application of some herbal medicines as mentioned in our Ayurvedic text. Acharya Sushruta stated Avasadana dravya for Avasadana Upakram<sup>1</sup>, which include both herbal and mineral drugs. These are Kasish, Hartala, Manhshila, Manikya, Chameli pushpa, Shirish and Karanj fruit, Saindhav, Kinva, Kukkutanda kapala. Combination of these drugs are used on hypergranulated wound named Kasishadi churna as an alternative to debridement under local anaesthesia.

## CASE STUDY

A 70 year old patient was presented with complaints of wound over right hand since seven days due to trauma. Wound size was 3×2.5 cm with mild slough and mild serous discharge. There was no history of any major illness like diabetes mellitus, tuberculosis. It was treated with daily dressing but there was no reduction in wound size. But it gradually became hypergranulated. The day on which hypergranulation was seen, wound size was 3×2.5 cm with mild slough, mild serous discharge, and pale hypergranulation. The diagnosis was confirmed as hypergranulated wound. So, it was decided to manage the wound by local application of an ayurvedic drug Ksishadi churna with madhu.



## Material and methods

- Patient's well informed written consent was taken.
- Following routine investigation was done CBC with ESR, RBS, B.T., C.T., HIV I & II, HBsAg
- Proper shodhana of Hartala, Manhshila, Kasish was done as per Ayurvedic text.

## Procedure

- Wound site and its periphery were cleaned with normal saline. Kasishadi churna was applied over hypergranulated wound and dressing done.
- Kasisadi churna was applied alternate day till complete debridement of hypergranulation in wound was achieved.
- Further jatyadi taila was applied over the wound.

## Assessment criteria

### 1) Wound bed

Hypergranulation – present or absent

### 2) Wound size

Two dimensional measures- length and width

### 3) Wound edges

Elevated

### 4) Surrounding skin

Scaly and dry

Macerated

Healthy

Inflamed

### 5) Pain

0-no pain

1-Localised pain during movements only, but not at rest.

2-Localised pain even during rest, but not radiating.

3-Localised continuous pain, radiating, not relieved by rest

### 6) Discharge

0-No discharge, dry dressing

1-Scanty discharge, occasional, wet dressing

2-Often discharge, needs dressing daily.

3-Profuse discharge which needs frequent dressing

### 7) Slough tissue

0-No slough

1-Upto 25% wound surface covered with slough.

2-25-50% wound surface covered with slough.

3-Above 50% wound surface covered with slough

## OBSERVATION

**Table 1** Effect of Kasisadi churna on symptoms of hypergranulated wound

Day	Hyper-granulation	Surrounding Skin	Pain	Dis-charge	Slough
1	Present	Inflamed	2	1	2
7	Present	Inflamed	1	1	1
15	Present	Normal	1	0	1
25	Absent	Normal	0	0	1
35	Completely healed	Normal	0	0	0



**Figure 1** Day 1 (Wound edges – Elevated)



**Figure 2** Day 7



**Figure 3** Day 15



**Figure 4** Day 25



**Figure 5** Completely healed

### **Discussion**

Hypergranulation is known by many terms including overgranulation, proud flesh, hypertrophic granulation and hyperplasia of granulation tissue. It is the condition that delays wound healing process. Hypergranulation occurs in a wide range of wounds including pressure ulcers, burns and venous ulcers and presents clinically in several forms. Suggested causes include prolonged inflammation caused by infection or foreign body irritant (such as dressing



fibres) or by external friction. Links between the use of occlusive dressings (such as hydrocolloids) and hypergranulation have also been made. It also appears to develop as a result of a cellular imbalance <sup>6</sup>.

In this case study we used Kasishadi churna having property of lekhan, shodhan and ropana karma for local application, which results in non-surgical debridement of wound and significant result in healing of the wound (Figure 1-5).

Table 1 shows significant decrease in symptoms of hypergranulated wound.

#### Probable mode of Action of Drug

Shirish have the properties like Tikta-Kashaya rasa, Katu vipaka, Usna virya, kushtaghna, vishghna, raktashodhaka. Tikta and Kashaya rasa have ropana, lekhana and kleda upshoshana property.

शिशिषो मधुरोऽनुष्णस्तिक्तश्च तुवरो लघुः ।

दोषशोषविसर्पघ्नः कासत्रणाविषापहः ॥ (भा. प्र.)

कषायः ---रोपणः ---लेखनः----

क्लेदोपशोषणश्चेति ॥ (सु.सू. 42/17)

Shirish pod contains glutamic acid and aspartic acid. Both being an amino acids, are the building blocks of body. Hence enhances wound healing.

Glutamic acid in free form is a metabolic intermediate in Krebs cycle, which plays an

important role in elimination of toxic ammonia from the body.

Studies also shows that wounds treated with glutamic acid have high rate of contraction and decreased period of epithelization and hence healed at a much faster rate.

Karanj have the properties like Katu-Tikta-Kashaya rasa, Katu vipaka, Ushna virya, kushtaghna, raktashodhaka.

करञ्जः -----

कुष्ठोदावर्तगुल्मार्शोत्रणक्रिमिकफापहा ॥

-----कृमिशोथहरं-----

कृमिकुष्ठजित् । भा.प्र.

Studies also shows the antimicrobial activity of Karanj and wound healing property of its chemical constituent Karanjin.

Jati have the properties like Tikta-Kashaya rasa, Katu vipaka, Ushna virya, kushtaghna, vishghna, raktashodhaka, vrana shodhana, vrana ropana.

जातियुगं तिक्तमुष्णं तुवर लघु दोषजित् ।

शिरोऽक्षिमुखदन्तार्तिविषकुष्ठव्रणास्रजित् ॥ भा.प्र.

Jati contains Benzoic acid. Studies shows that Benzoic acid helps in the prevention of bacterial infection. The acidic environment promotes epithelization and angiogenesis.

Kasish have Amla, Kashaya rasa, ushna virya, kriminashak properties. Kashaya rasa have ropana, lekhana and kleda upshoshana property.





पुष्पादिकासीसमतिप्रशस्तं -----  
विषानिलश्लेष्मगदव्रणघ्नं---कचरञ्जनञ्च ॥ (र.  
र. समु. 3/53)

ऋग्यजुषो ऋषयः ऋषयः यत्नः, ऋत्तुगञ्जम्,  
ऐत्तुगञ्जम् गच्छ ऐत्तुगञ्जम्.

श्लेष्मरक्तविषातभूतनुत-----कुष्ठहारि

हरितालमुच्यते ॥ (र. र. समु. 3/73)

Manhshila have Katu-Tikta rasa, Ushna  
virya, Lekhana, Visha and Kriminashak  
properties.

मनःशिला-----लेखनी कटुः-----

विषश्वासकासभूतकफासनुत् ॥ (आयु. प्र.)

ऐत्तुगञ्जम्-ऋषयः ऋषयः यत्नः, रत्तुगञ्जम्  
षत्तुगञ्जम् ऋत्तुगञ्जम्, लृत्तुगञ्जम्, धन्तुगञ्जम्,  
पञ्चग, श्लेष्म गच्छ ऋत्तुगञ्जम्.

तिक्तश्छेदनो-----शोधनः-----

क्लेदमेदोवसापुयोपशोषण श्रेति ॥ (सु.सू. 42/16)

Kinva have Vishada property which helps in  
ropana and chhedana karma.

बक्केसो हतसारत्वाद्द्विष्टम्भी-----

विशदोऽल्पमदो गुरुः ॥ (सु.सू. 45/181)

विशदो -----क्लेदाचूषणरोपणः ॥ (सु.सू.  
45/181)

क्लेदच्छेदकरः -----विशदो व्रणरोपणः ॥ (भा.  
प्र.)

Madhu have Kashaya anurasa, lekhana,  
Krimi and Vishaprashman properties.

मधु तु मधुरं कषायानुरसं रुक्षं-----

लेखनं-----सन्धानं शोधनं रोपणं  
संग्राहि---॥ सु.सू.45/132

## CONCLUSION

It can be concluded that Kasishadi churna  
reduces hypergranulation significantly  
specially in chronic non-healing  
hypergranulated wound (Shodhana karma)  
and simultaneously healing of wound  
(Ropana karma). The above mentioned  
dravya are used in such a small proportion  
that it does not produces any systemic  
toxicity.



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