

# PHARMACEUTICAL STUDIES OF DANTADHYA LEPA

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**Abstract:** Arśha is a clinical condition in which structural derangement takes place. The doṣas are vitiated due to indulgence in etiological factors by the person that in turn leads to Agnimāndya that further hampers the functions of Apaana Vāyu. The vitiated Apaana Vāyu is responsible to get localized in the Mamsa and Meda of guda pradesha, which result into appearance of Mamsa prarohās or Arsha. There are different modalities of treatment in this disease viz; Bhesaja, Kshara, Agni and Shastra. The treatment of Arsha by Bhaiśaja does not produce the complications like putrefication, pain and bleeding etc like the other modalities of the treatment. There is a indication of Dantadhya lepa in Arsha. But most of the Acharyas have mentioned only the contents and uses of lepa, but there is no clear indication how to prepare that. The present paper deals the pharmaceutical preparation of Dantadhya lepa.

**Keywords - Ayurveda, Dantadhya, Lepa, Arsha**

## INTRODUCTION

The disease haemorrhoids is one of the commonest ailments that afflict man kind, Its management has remained a challenge to the medical profession, which has confirmed from the advent of numerous modalities of the treatment. But not all of them have been uniformly successful. The procedures which are in practice at present are Rubber Band Ligation, Cryo Haemorrhoidectomy, Anal stretching and Closed Haemorrhoidectomy. Unfortunately all these measures are having their limitations and perhaps this is the reason that a continuous search for newer methods is thought of. The ancient medical authorities Acharya Charaka and Acharya Sushruta both have described four types of measures for the treatment of Arsha. These are Bhesaja, Kshara, Agni and Shastra. Acharya Charaka has laid more emphases on Bhaiśaja treatment-medical treatment; where as Acharya Sushruta speaks much about kshara, Agni and Shastrakarma. Vagbhatta has considered that in all the disorders first line of the treatment is Bhaiśaja cikitsa. Treatment of Arsha by Bhaiśaja does not produce the complications like putrefication, pain and bleeding etc like the other modalities of the treatment.

This paper details the role of Dantadhya lepa as a useful and easy remedy for the Arśha in the initial stage which can be helpful for the patients suffering from it.

## Ingredients of Dantadhya Lepa

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- Danti roots,
- Shyama(Black) Nisoṭh,
- Amratasang (Tutiya/Tuttha/Copper-sulphate),
- Pigeon's excreta (droppings),
- Jaggery

## Detailed description of contents of Dantadhya Lepa:

### Dantimula:

**Latin name:** Baliospermum Montanum

**Family:** Euphorbiaceae

**Gana:** Virechana, Mulini, Mulasva (Ch), Adhobhagahara Shyamadi (Su)

**Synonyms:** - Danti, Udumbarparṇi, Erandaphala, Shighrā, Nikumbha

**Habitat:** Bengal, Bihar, South India

**Morphology:** Herbaceous plant 3 - 6 ft. height,

**Prayojyānga:** - Mula, Beeja, Patra

**Properties:**

**Rasa -** Katu

**Guna -** Guru, Tikshna

**Vipaka-**Katu

**Veerya -** Ushna

**Effect on dosha:** Kapha Pittahara

**Chemical Composition:** Croton oil, ral, starch

**Karma:** Sothahara, Veedanasthapna, pittasara, Virechan, Krimighna Uplepa, Shodhan, Lekhan, Pachan.

**Uses:** -Udararoga, Śwāsa, Kuṣṭha, Kāmalā, Śoṭha, Gulma, Arśa, Jwara, Kṛimi, Duṣṭavrana

**Pharmacological Actions:** - Anti-inflammatory, Antiseptic, Analgesic

### Nisoth:

**Latin name:** Operculina turpethum

**Family:** Convolvulaceae.

**Gana:** Bhedniya (Ch), Adhobhagahara Shyamadi (Su), Shyamadi (Vag.)

**Synonyms:** - trivritt, ardhachandra, aruna, arunatrivrt, bahurecani, kalameshi, kalingika, kootarana, kumbha, kumbhadhatri, kutarana, lagivrittika, malavika, masuravidala, masuri, nandi, palindi.

**Habitat:** It is found at the height of 3000 feet or more in Africa, Tropical Asia and Australia and also is recorded throughout the warmer parts. In Karnataka and Tamil Nadu it is recorded in the drier zones but nowhere abundant amounts. In Kerala, it is found only in the forests of drier regions. (ravi kumar)

**Morphology:** It is a perennial aromatic creeper. It is a simple stem, triangular or rectangular with hairy stem. Leaves are many and are oval in shape. It is 2 to 5 inch in length. The flower presentation is 1 to 4 inch long and has 3 to 4 branches that bear white flowers. Fruit is round ½ to ¾ inch in diameter, it bears 4 shiny 2 inch long seeds. Roots are thick, branched, black in color. The plant fruits and flowers in march to December

**Prayojyānga:** - Mula twak(Root bark), Patra (Leaves),

### **Properties-**

**Guna**— laghu (light), tikshan (sharp) and ruksha (dry)

**Rasa**— katu (pungent) tickta (bitter)

**Virya**— ushan (hot)

**Vipaka** - Katu

**Effect on dosha:** Vata Pittahara

**Chemical Composition:** The root bark contains glycosidum resin which is 10 %. It also contains a glycoside named  $\alpha$ - and  $\beta$ - turpethin that provides it the purgative action. Besides these it contains two glycosides, volatile oils and yellow colored substance.

**Karma:** Vranapachan Shodhan, Lekhan, Stambhan, Vilayan, Virechan.

**Uses:** -Udararoga, Kāmalā, Śoṭha, Arśha, Jwara, Kṛimi, Pandu, Vibandh, Duṣṭavrana

**Pharmacological Actions:** - Anti-inflammatory, Antipyretic, Laxative, Reduces fat.

### GUDA (JAGGERY):

Sweetening substances used in the Ayurvedic formulations for the purpose to increase its palatability, for preservation and also to have, tonic effect

When sugar-cane (*Saccharum officinarum*) juice is heated upto thick and somewhat hard then it is termed as Guda.

#### **Properties of Nava Guda:**

Nava Guda is Kapha Swasa Kasa Krita, Krimikara and Agnideepaka.

#### **Properties at Purana Guda:**

Purana Guda is laghu, Madhura, Vatapittaghna Agnideepaka, Asrakaprasadana, Vrisya and Anabhisyanidi.

### **Properties:**

**Rasa** -Madhura

**Guna** - Guru, Snigdha

**Veerya**-Ushna

**Vipaka** -Madhura

**Doshakarma:** Vatapittashamaka

**Karma:** Balya, Mutrashodhana, Pachan, Uplepa

**Chemical Composition:** Carbohydrates 12 -15% (fructose, sucrose, glucose), Resin 0.15 – 0.25%, Protein 0.15 – 0.25%, Ammonium Salts, Carboic acid, citric acid, lactic acid, Vit. B complex & D Essential Minerals

### PIGEON`S EXCRETA:

**Rasa** – Madhura, Kshaya

**Guna** – Laghu, Ruksha, Vishada

**Virya** - Shita

**Vipaka** - Madhura

**Doshakarma:** Kaphapittashamaka

**Karma:** Raktapittashamaka, Vranaropana, Lekhan, Stambhan, Shodhan, Pachan

**Uses:** - **Rasktārśa**, Raktapitta, Raktapradara, Garbhasrava

### TUTTHA (Copper sulphate):

It comes under the Maharasa. The sasyaka which has the colour of the neck of peacock, which is bright and heavy, is said to be the best. (R. R.S.)

**English Name** : **Blue vitriol** (CuSO<sub>4</sub> , 7H<sub>2</sub>O), copper sulphate

**Synonyms** : Tamragarbha, Sasyaka, Mayuraka, Amratasang, Tuttha

**Properties** :

- Rasa - Kashaya, Madhura
- Guna - Laghu
- Virya - Shita
- Vipaka - Madhura
- Doshakarma - KaphaPittahara

Actions: Lekhana, Rasayana, Balya, Stambhan

Uses : Kushthaghna, Krimighna, Vishanashaka, Chakshushya.

**PHARMACEUTICAL PREPARATION:**

All the pharmaceutical procedures were carried out in collaboration of the department of Dravyaguna and Rasasashtra, Rishikul State P.G. Ayurvedic College and Hospital, Haridwar. The drugs viz; Danti and Nisoth were collected from Haridwar and nearby regions in shishir ritu (January and February 2009.) after proper identification and were made free from any adulteration. Thereafter they were made into fine powder of mess size-120. The excreta of Pigeon (Kapot pureesh) was collected separately and made into fine powder. Mineral content viz Tutha (Copper sulphate) was purified as per the reference of Ras tarangini-21/106 by triture it in lime water for a period of six hours (dwiyaama).

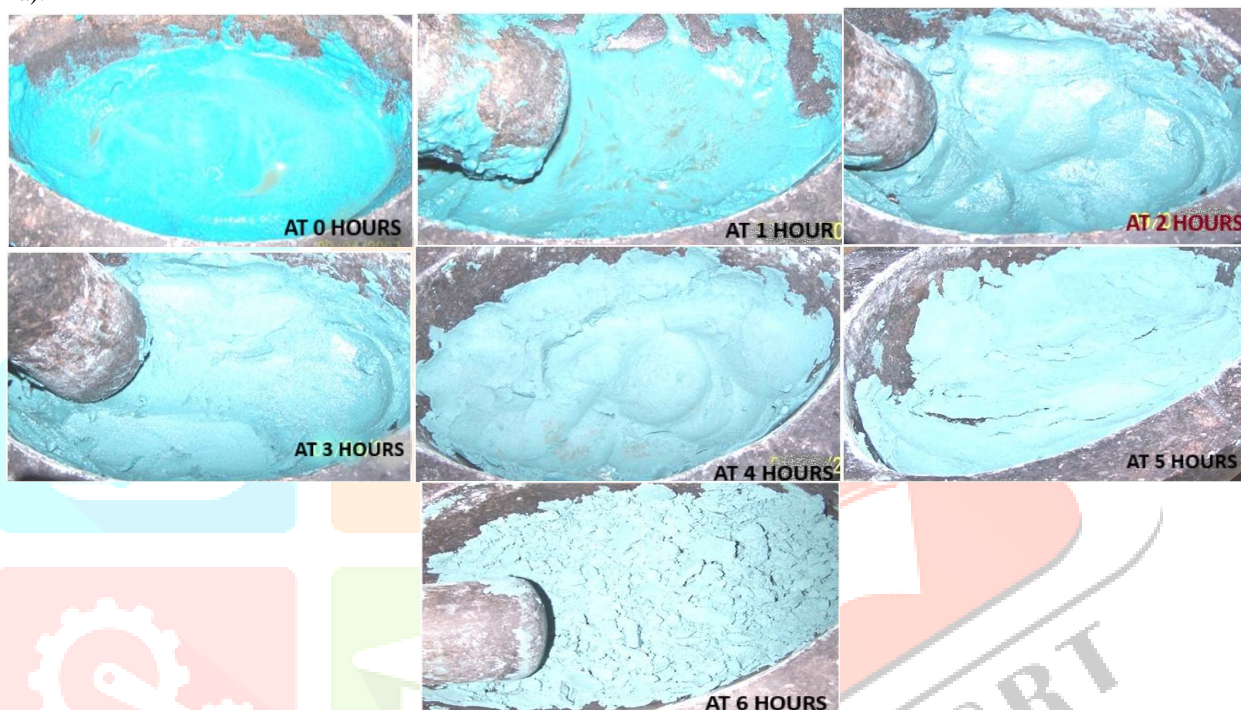


Figure 1-Different Steps in the trituration of Tutha

**Method of Preparation of Dantadhya Lepa:**

Dantadhya lepa was prepared by adding *gud* to heated/boiled distilled water, followed by other contents one after another and stirring it through out the procedure. Prepared lepa was stored in sterile container at dark place. Most of the Acharyas have mentioned only the contents and uses of lepa, but there is no clear indication how to prepare that. This is the first study which details the preparation of *Dantadhya lepa*.

**ANALYTICAL STUDY OF DANTADHYA LEPA**

**Organoleptic Characters:**

- Colour: Greenish-brown
- Touch: Granular and
- Consistency: Semi-solid.



**Physico-Chemical Analysis (Determination of pH value):**

The pH value of Lepa was determined by Potentiometer or pH meter. The calibrated apparatus using standard buffer solutions was used for this study. The electrodes were immersed in the solution of lepa constituents and lepa in different dilution which was made in distilled water and measure pH at the same temperature as for the standard solutions.

	500mg/5ml (10%)	500mg/10ml (5%)	500mg/15ml (3.33%)	500mg/50ml (1%)
Amratasang	2.49pH	2.63	2.74	3.46
Danti	6.64	6.74	6.84	7.21
Nishoth	6.52	6.63	6.73	6.92

Gud	5.30	5.36	5.40	5.68
Kapot Pureesh	5.70	5.77	5.80	6.03
Lepa	3.41	3.46	3.51	3.7

Distilled water pH=7.04

pH of Lepa= 3.33(without dilution)

## DISCUSSION:

The overall pharmacodynamics of Dantadhya lepa was not given in classics. However there is a detailed description of individual ingredient properties in different books. The drugs are active due to their own inherent constituent (Dravya Prabhava), properties (Guna Prabhava) and both combined (Dravyaguna Prabhava) together in particular time, on reaching particular site with particular mechanism and objective.

## Properties of Dantadhya lepa contents:

	Danti	Nisoth	Tutha	Gud	Kapot pureesh
<b>Rasa</b>	Katu	Katu, Tikta	Madhur, Kashaya	Madhur	Madhur, Kashaya
<b>Guna</b>	Guru, Tikshna	Laghu, Ruksha, Tikshna	Laghu	Guru, Kashaya, Snigdha	Laghu, Ruksha, Vishad
<b>Veerya</b>	Ushna	Ushna	Sheeta	Ushna	Sheeta
<b>Vipak</b>	Katu	Katu	Madhur	Madhur	Madhur
<b>Dosha-karma</b>	Kapha-pittahar	Kapha-pittahar	Kapha-pittahar	Vata-pittahar	Kapha-pittahar

## PROBABLE MODE OF ACTION OF DANTADYA LEPA:

Since a clear cut description about pharmaco-dynamic action of Dantadhya lepa is not available in the classics, but an attempt is made for the same on the basis of symptomatological relief obtained from clinical trials. Dantadhya lepa is mentioned in Charaka samhita for the management of Arsha, and wrote that it destroys the Arsha but not affect the normal structure of guda. Probably, there may be reduction in size of haemorrhoids by the local application of Dantadhya lepa due to its corrosive effect on the wall of affected veins by acidic nature (pH – 3.3) as well as **Ropana, Stambhana, Vilayana, Pachana, Shodhana and Lekhana** properties of Dantadhya lepa. Ushna, Tikshana guna of Dantadhya lepa may correct the Vāta duṣṭi and regulate the function of Apāna Vāyu which breaks Samprāpti and cure the disease Arsha. Laghu guna of Nisoth, Kapot-pureesh, and Tuttha: acts as Vrana pachan, Ropana, and Lekhan. Ruksha guna of Nisoth and Kapot-pureesh acts as Stambhana and Lekhan. Tikshna guna of Nisoth and Danti: acts as Vathar, Sodhan and Lekhan. Vishad guna of Kapot-pureesh: acts as Ropana and Lekhan. Katu, Tikta rasa of Nisoth and Katu rasa of Danti: acts as Sodhan and Pachan. Kashaya Rasa of Gud, Kapot-pureesh, Tuttha: acts as Sodhan, Ropana, Stambhana, and Lekhan. Ushna-virya of Nisoth, Danti, and Gud: acts as Pachana, Vilayan. Sheeta-virya of Kapot-pureesh and Tuttha: acts as stambhana.

## Conclusion

It can be concluded the Dantadhya lepa due to the properties of Ropana, Stambhana, Vilayana, Pachana, Shodhana, Lekhana and its acidic and corrosive nature (pH-3.3), it will correct the pathophysiology of Arsha (haemorrhoids), So, it can be a better option than the modalities of treatment of Arsha.

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