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# Priyangvadi taila in the management of Dusta Vrana (Infected Wound): A classical drug review

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#### **ABSTRACT**

Background: Wound was probably the primary ailment, which man had suffered and identified in early days. Nearly 6 million people suffer from chronic wounds worldwide. Priyangvadi taila consists of poly-herbal drugs as mentioned in Vidradhirogaadhikar of Vangsena Samhita with the applicability in Dusta Vrana (Infected Wound). Material and Methods: Ayurvedic texts, as well as the data bases web-based search engines, journal, were used to search for relevant literature and information. Result: Priyanvadi taila is kashaya rasa dominant drug and according to Sushruta & Charaka, Kashaya rasa having shodhana, ropana, lekhana, kledashoshana properties and also krimighna and kandughna due to katu and tikta rasa. Tikta rasa also having the properties of chhedana and puyushoshana. Pharmacological activity like anti-microbial effect were also reported. Conclusion: The shodhana and ropana karma of Priyanvadi taila was found in effective in Dusta Vrana (Infected Wound) as described in Ayurveda text.

Keywords: Anti-microbial, Dusta Vrana, Infected Wound, Priyanvadi taila

### 1. INTRODUCTION

Wound is type of injury in which skin, muscles, etc. get torn or cut. Of course healing is normal physiological phenomenon which starts immediate after injury, but scar of wound remains forever. Wound and particularly chronic wounds are major concerns for the patient and clinician alike; chronic wound affect a large number of patients and seriously reduce their quality of life since past in all over. Most of the wound heals on its own. Some local factors like sough, infections, foreign bodies, haematoma and deficient blood supply etc. also retard the normal process of healing. In Ayurvedic text, such types of wounds called as Dushta Vrana. Literally means durable (unhealthy) or an adhama (degraded) Vrana. It is an excessively damaged or ragged wound with putrid odour, discoloured, excruciating pain and excessively discharging condition discolouration of its adhisthan (the body tissues).

Current estimates indicates that nearly 6 million people suffer from chronic wounds worldwide.

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In an Indian study, the prevalence of chronic wound in the community was reported as 4.5 per 1000 population whereas that of acute wounds was nearly doubled at 10.5 per 1000 population. The commonest cause of chronic wound in India is systemic diseases like diabetes mellitus, tuberculosis, and leprosy. The practice working and walking barefoot, especially in agriculture fields leads to increased risk of infection in the wound.

In a country like India, where nearly 80% of the population resides in rural areas under poor hygienic and nutritional conditions, not only able to afford their treatments offered by modern medicine practitioners. Often due to their poverty and unhygienic living condition, even simple wounds are infected to cause a great sufferance to them. Hence, there is a need to find out such treatment modalities, which are cheap, easily available in the neighbourhood and also free from side effects. So it is needed to use poly-herbal preparation for the management of Dushta vrana, which have shodhana, ropana, krimighna and shothhara properties. So, keeping this in mind by Ayurvedic literature it was found that "Priyangvadi taila" combination of six drugs mentioned in Vidradhirogaadhikar of Vangsena Samhita (77/62-63) was selected to see its debriding, purificative and healing effect on Dushta Vrana. Present review was aimed at gathering the information about the details of the constituents of this formulation along with the applicability of this formulation in Dusta Vrana (Infected Wound).

### 2. MATERIALS AND METHODS

#### 2.1. Method of review

The pertinent literature was found and presented in a methodical manner using all the pertinent Ayurvedic texts, the databases Google Scholar, PubMed, Medline, AYUSH Research Portal, and Digital Helpline for Ayurveda Research Articles (DHARA), dissertations from Ayurvedic colleges, studies accessible on Research Gate web-based search engines, and journals.

### 2.2. Procurement of Trial Drugs

All the trial drugs i.e. Priyangvadi taila was identified.

### 2.3. Preparation of Drugs

All the drugs were prepared as per the method of preparation of Sneha kalpana as mentioned in Sharangadhara Samhita in Pharmacy of S.G.M.P.G Ayurvedic Medical College and Hospital Saheri, Ghazipur.

### 2.4. Materials for Priyangvadi taila

Description of Ingredients of Priyangvadi taila, with English / Latin name, Part used and its quantities are as given in Table 1:

Table 1: Ingredients of 'Priyangvadi taila'

Sr. No	Name of Drugs	Botanical name/ English Name	Part used	Proportion
1.	Priyangu	Callicarpa macrophylla Vahl.	Flower	1 part
2.	Lodhra	Symplocos racemosa Roxb.	Bark	1 Part
3.	Kattphala	Myrica esculenta Buch-Ham.	Bark	1 Part

2022; Vol 11			Open Access	
4.	Dhataki	Woodfordia fructicosa Kurz.	Flower	1 Part
5.	Haridra	Curcuma longa Linn.	Rhizome	1 Part
6.	Daruharidra	Berberis aristata DC.	Root	1 Part
7.	Tila Taila	Sesamum indicum Linn.	Seed	24 part

### 3. RESULT

The pharmacological properties of the formulation can be explained on the basis of the individual drug properties as mentioned below:

# 1. PRIYANGU

Latin Name	Caliparpa marcrophylla Vahl.	
Family	Verbenaceae	
Synonyms	Phalini, Kanta, Shyama, Anganapriya	
Vernacular Name	Hindi Name: Priyangu	
Classical	Charakasamhita: Sandhaniya, Shonitsthapaniya	
Categorization:	Susrutasamhita: Pryanvadi, Eladi	
Part Used	• Flowers	
Rasapanchaka	Rasa: Tikta, Kashaya, Madhura	
	• Guna: Guru, Ruksha	
	• Virya: Sheeta	
	• Vipaka: Katu	
	• <b>Doshaghnata:</b> Vata - Pittahara	
Karma	Vranaropana, Raktastambhana, Vedanasthapana, Tvachya	
Rogaghnata	Durgandhivrana, Charmavikara, Vrana-vidhradhi	
Chemical	Tetracycline diterpens, Oleanolic acid, Calliterpenone,	
constituents	Luteolin, Apigenin	
Pharmacological	Anti-inflammatory, analgesic, anti-pyretic, anti-fungal, anti-	
activities	bacterial.	

# 2. LODHRA

Latin Name	Symplocos racemosa Roxb.	
Family	Symplocaceae	
Synonyms	Balipriya, Bhillataru, Galava, Marjana	
Vernacular Name	English Name: Symplocos bark	
	Hindi Name: Lodha	
Classical	Charakasamhita: Sandhaniya, Shonitsthapaniya	
Categorization:	Susrutasamhita: Lodhradi, Nyagrodhadi	
Part Used	Bark	
Rasapanchaka	Rasa: Kashaya	
	• Guna: Laghu, Ruksha	
	Virya: Sheeta	

2022; Vol 11	Open Access	
	• Vipaka: Katu	
	• <b>Doshaghnata:</b> Kapha – Pittahara	
Karma	• Raktastambhana, Vranashodhana, Shothahara, Vranaropana,	
	Kushthaghna, Kandughna	
Rogaghnata	• Yoniroga, Pradara, Vrana-ksata, Kushtha, Karnasrava,	
	Kandu, Charmavikara.	
Chemical	Monomethyl pelargonidin glucosides, loturine, Colloturine,	
constituents Oxalic acid, Ellagic acid		
Pharmacological	Anti-bacterial, anthelmintic, adaptogenic.	
activities	ivities	

# 3. KATTPHALA

Latin Name	Myrica esculenta Buch-Ham.		
Family	Myricaceae		
Synonyms	Bhadra, Kumbhi, Rohini, Kumudika, Katphala		
Vernacular Name	English Name: Bay Berry		
	Hindi Name: Kayphal		
Classical	• Charakasamhita: Sukrashodhana, Sandhaniya,		
Categorization:	Vedanasthapana		
	Sushrutasamhita: Lodhradi, Surasadi, Lakshadi		
Part Used	Bark, Flower		
Rasapanchaka	• Rasa: Kashaya, Tikta, Katu		
	• Guna: Laghu, Tikshna		
	• Virya: Usana		
	Vipaka: Katu		
	• <b>Doshakarma:</b> Kapha - Vatahhara		
Karma	• Tvachya, Kandughna, Shothahara, Sandhaniya,		
	Vranasodhana – ropana, Krimighna		
Rogaghnata	Vrana, Charmaroga, Shotha, Sukradosha		
Chemical	Myricitrin, Quercetine		
constituents			
Pharmacological	Anti-allergic		
activities			

# 4. DHATAKI

Latin Name	Woodfordia fructicosa Kurz. Vol 3, 2005 206-216
Family Lytheraceae.	
Synonyms	Dhatupushpi, Vahnijvala, Raktapushpa, Dadimapatra
Vernacular Name	English Name: Fire flame brush
	Hindi Name: Dhava

2022; Vol 11	Open Access		
Classical	Charak: Sandhaniya, Mutravirajaniya		
Categorization:	• Shushruta: Priyanvadi, Ambasthadi		
Part Used	• Flower		
Rasapanchaka	Rasa: Kashaya, Katu		
	• Guna: Laghu, Ruksha		
	• Virya: Sheeta		
	• Vipaka: Katu		
	<b>Doshakarma:</b> Kapha – Pittashamaka		
	Prabhava: Stambhana		
Karma	• Sandhaniya, Vranaropana, Raktastambhana, Tvachya. Krimighna		
Rogaghnata	Dushta Vrana, Kushtha, Charmaroga, Raktapradara		
Chemical	Malvidine pentose glucosides, tannin, ursolic acid, carotene,		
constituents	insulin, citric acid, ellagic acid, gallic acid, malic acid, lawsone		
Pharmacological activities	Anti-microbial, anti-inflammatory, anti-bacterial		

# 5. HARIDRA

Latin Name	Curcima longa Linn.	
Family	Zingiberaceae	
Synonyms	Nisha, Gauri, Krimighna, Yoshitpriya, Hattavilashini	
Vernacular Name	English Name: Turmeric	
	Hindi Name: Haldi	
Classical	Charakasamhita: Lekhaniya, Kushthaghna, Kandughna.	
Categorization:	• Sushrutasamhita: Mustadi, Vachadi.	
	Vagbhata: Mustadi, Haridradi, Lakshadi	
Part Used	Rhizome	
Rasapanchaka	Rasa: Tikta, Katu	
	• Guna: Laghu, Ruksha	
	• Virya: Ushna	
	• Vipaka: Katu	
	Doshakarma: Kapha-Vatashamaka	
	• Prabhava: Kusthghna	
Karma	• Raktastambhana, Kandughna, Tvachya, Vrana-shodhana-ropana-lekhana	
Rogaghnata	Vranavikara, Vrana-kshata, Sukrameha, Vedanashotha	
Chemical	Curcuminoids, Bisabolane, dihydrocurcumin, phytosterol,	
constituents	fatty acids, polysaccharides	
Pharmacological	Anti-microbial, anti-fungal, anti-bacterial	
activities		

2022; Vol 11 Open Access

# 6. DARUHARIDRA

Latin Name	Berberis aristata DC.	
Family	Berberidaceae	
Synonyms	Darvi, Parjanya, katankateri, pachampacha	
Vernacular Name	English Name: Indian Berberry	
	Hindi Name: Darhald	
Classical	Charakasamhita: Lekhaniya, Kandughna, Arshoghna	
Categorization:	Sushrutasamhita: Haridradi, Mustadi, Lakshadi	
Part Used	Root, Stem, Fruit	
Rasapanchaka	Rasa: Tikta, Kashaya	
	• Guna: Laghu, Ruksha	
	• Virya: Ushna	
	• Vipaka: Katu	
	• <b>Doshakarma:</b> Kapha - Pittashamaka	
Karma	Vranashodhana-ropana, Shothahara, Vedanasthapana	
Rogaghnata	Vrana, Nadivrana, Kushtha, Kandu, Raktapitta	
Chemical	Berberine, citric acid, malic acid, umballiatine, oxycanthine	
constituents		
Pharmacological	Antibacterial, antifungal, hypoglycemic effect.	
activities		

# 7. TILA TAILA

Latin Name	Sesamum indicum Linn. i		
Family	Pedaliaceae		
Vernacular Name	English Name: Sesame oil		
	Hindi Name: Til tel		
Part Used	• Seed		
Rasapanchaka	Rasa: Katu, Tikta, Madhura		
	• Guna: Guru, Sara, Tikshna, Sukshma		
	• Virya: Ushna		
	Vipaka: Madhura		
	• <b>Doshaghnata:</b> Vata-Kaphashamaka		
Karma	Vranashodhana-ropana, Lekhana, Twakprasadana		
Rogaghnata	Vrana, Vataroga, Shiroroga, karnaroga		
Chemical	• Neural lipids, glycolipids, phospholipids, histidine, lysine,		
constituents valine, biotin, glucose.			
Characteristics of	• Specific gravity – 0.924, Refractive index – 1.4770, Acid value		
sesame oil	-2.2, Iodine value $-113$ , saponification value $-200$ .		
	• Sesame oil contains about 80% unsaturated fatty acids		
	composed mainly of oleic (18:1) and linoleic (18:2) acids. The		

2022; Vol 11	Open Access
	remaining 20% is composed of the saturated fatty acid namely
	palmitic and static acids.

Table No. 2: Average of Pharmacodynamics of Priyanvadi taila

Properties	Observations in Priyanvadi taila	
	Total No. of Drugs	Percentage%
	Rasa	
Madhura	2/7	28.50
Katu	4/7	57.14
Tikta	5/7	71.42
Kashaya	5/7	71.42
	Guna	
Guru	2/7	28.50
Laghu	5/7	71.42
Ruksha	4/7	57.14
Tikshna	2/7	28.50
	Vipaka	
Madhura	1/7	14.28
Katu	6/7	85.71
	Virya	
Ushna	4/7	57.14
Sheeta	3/7	42.85
	Doshaghnata	
Vata-Pittahara	1/7	14.28
Vata-Kaphahara	3/7	42.85
Kapha-Pittahara	3/7	42.85
	Karma	
Tvachya	5/7	71.42
Vranashodhana	7/7	100.00
Vranaropana	7/7	100.00
Shothahara	3/7	42.85
Sandhaniya	2/7	28.50
Stambhana	4/7	57.14
Vedanasthanpana	2/7	28.50
Kandughna	3/7	42.85
Lekhaniya	2/7	28.50
Krimighna	2/7	28.50

# 4. DISCUSSION

Charaka defined Ashudha Vrana as a foul smelling, discoloured, painful and excessively discharging condition. However according to Sushruta dushta Vrana shows clinical features

Frontiers in Health Informatics *ISSN-Online*: 2676-7104

2022; Vol 11 Open Access

like fierce looking, excessive pus, sloughing of ligaments and muscles, unpleasant smell and appearance, severe pain.

The main purpose of treatments of Dushta Vrana is mainly converting Dushta Vrana into Shuddha Vrana. The concept of wound bed preparation now-a-days is very much similar to that mentioned by Sushruta for management of Dushta Vrana. Sushruta explained a sixty different procedure for the management of Dushta Vrana.

Priyanvadi taila is kashaya rasa dominant drug because 5 drugs out of 7 having kashaya rasa and according to Sushruta & Charaka, Kashaya rasa having shodhana, ropana, lekhana, kledashoshana properties apart from this it is also having properties of krimighna and kandughna due to katu and tikta rasa. Tikta rasa also having the properties of chhedana and puyushoshana.

### Probable mode of action of Priyanvadi taila

Debridement of wound may be due to lekhaniya property of Haridra and Daruharidra and healing achieved by sandhaniya property of priyangu, lodhra, kattaphala and dhataki. In earlier phase the drug, expel out the slough and necrotic tissue due to property of katu, tikta and kashaya rasa. Further drug has reduced excessive exudation by decreasing inflammation due to katu rasa (Table 1 & 2). The katu and tikta rasa reduced bacteria load by its krimighna property. Katu rasa also splits the haemorrhagic clots and enhances the circulation at affected area.

Vrana shodhana is achieved followed by ropana karma by its kashaya rasa and sheeta veerya properties which further help in wound healing and action of all the drugs seems to be helpful in debriding the wound, healing of wound may be due to biosynthesis of mucopolysaccharides and collagen. Therefore, it facilitates wound healing of regeneration and organization of healthy granulation and epithelization. Anti-microbial effect of Priyanvadi taila may be duet katu and tikta rasa.

#### 5. CONCLUSION

The shodhana and ropana karma of Priyanvadi taila was found in efficacious as described in Ayurveda text. Initially drug acts as a debriding agent, remove slough, necrotic agent from wound and subsequently promotes smooth and uncomplicated healing process. Tropical application reduces pain and discharge of the surrounding tissues and reduces wound infection due to its antimicrobial effect.

### **CONSENT**

It is not applicable.

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#### **COMPETING INTEREST**

Authors have declared that no competing interest exist.

2022; Vol 11 Open Access

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