

## LITERARY ANALYSIS OF BURN WOUND IN AYURVEDIC SYSTEM OF MEDICINE

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### ABSTRACT

Ayurveda is an oldest surviving medical system in the world. The science that teaches the wisdom of living life is Ayurveda. Ayurveda gives equal importance to preventive measures and complete cure of a disease with very less chance of recurrence. Among the eight disciplines of Ayurveda, Shalyatantra is considered as the top branch seeing its applicability and usefulness according to Sushruta Samhita.<sup>[1]</sup> Different surgical and parasurgical therapy approaches play a key role in curing diseases when the medical management is limited. Sushruta Samhita, also known as Vranapradhana Tantra, is the first textbook of ancient Indian surgery (Textbook of traumatology).<sup>[2]</sup> Acharya Sushruta has described burn injury as a complication of parasurgical procedure like agnikarma. Likewise description of dagdha vrana, its etiological factors, pathophysiology, clinical features, classification management including various local and systemic measures found in Brihatrayi and Laghutrayi vividly.

**KEYWORD:** Vrana, Dagha Vran, Burn.

### INTRODUCTION

In ayurveda both therapeutic and accidental burn injury described in terms of Agnikarma and Itartha Dagdha. Description of burn wounds were found in both Vrihatrayee and Laghutrayees while planning the treatment modalities of different patients physician has to choose surgical (astavidh sastrakarma) and parasurgical (Agnikarma and Kshara Karma)

according to different disease condition. During Agnikarma there are different types of burn occur accidentally which are plusta, durdagha, samyak dagdhga, ati dagha.

In all the classics of Ayurveda burn injury or dadgha brana is described elaborately in terms of etiology, classification, pathophysiology, treatment modalities according to types of burn, diet and regiment for burn patients.

### DESCRIPTION OF BURN INJURY IN DIFFERENT CLAASICS IN DIFFERENT TIME PERIOD

Sl no	Samhita	Time period
1	Charaka Samhita	2 <sup>nd</sup> century BCE
2	Sushruta Samhita	2 <sup>nd</sup> century CE
3	Astanga Sangraha	550 CE
4	Astanga Hridaya	8 <sup>th</sup> century CE
5	Harita Samhita	10-12 century CE
6	Sarangadhar Samhita	First half 13 <sup>th</sup> century CE
7	Bhavaprakash	16 <sup>th</sup> century CE
8	Yogaratanakar	17 <sup>th</sup> century CE

### NIRUKTI AND DEFINITION OF VRANA

The word Vrana is derived from root word वृण, वृवृणोति, वृणुते which means to eat, to spread, to conceal, to envelope.

व्रण गात्रविचूर्णने व्रणयति इति व्रण। 1

"Gatra" means tissue (tissue or part of body).

"Vichurnane" means destruction, break, rupture and discontinuity of the body or tissue.

So the destruction / break / rupture / discontinuity of body tissue / part of body, is called Vrana.

### TYPES OF DAGDHA VRANA (BURN WOUND)

**Dagdhavrana (Burn wound) can be classified as follows**

#### Clinical classification

I. Acharya Sushruta has classified the burn wound on the basis of extent of injury and clinical features<sup>[2]</sup>

Acharya Sushruta has classified burn wound into four types according to layer of the twacha (skin) involved-

- a) Plusta
- b) Durdagha,

- c) Samyagdagdha  
d) Atidagdha.

### Etiological classification

II. Again depending upon the nature of the causative factors of burn, it has been divided into two groups<sup>[3]</sup>

- a. Snigdha Dagdha Vrana: Burn caused by oily substances (snigdha).  
b. Ruksha Dagdha Vrana: Burn without involvement of oily substances (ruksha). It is a dry form of burn.

**Table 3.1.5: Showing different types of burn mentioned by different Samhitas.**

Samhita	Types of burn							
	Plusta	Tuttha	Isaddagdha	Tuccha	Durdagdha	Madhya dagdha	Samyakdagdha	Atidagdha
Charak Samhita	-	-	-	-	-	-	-	-
Sushruta Samhita	+	-	-	-	+	-	+	+
Ashtanga Sangraha	-	-	-	+	+	-	+	+
Ashtanga Hridaya	-	+	-	-	+	-	+	+
Madhav Nidan	-	-	-	-	-	-	-	-
Sarangadhar	-	-	-	-	-	-	-	-
Bhavaprakash	+	-	-	-	+	-	+	+
Harita Samhita	-	-	+	-	-	+	+	+
Yogratnakar	+	-	-	-	+	-	+	+

## CLINICAL FEATURES OF DAGDHA VRANA ACCORDING TO DIFFERENT CLASSICS

### A. SUSRUTA SAMHITA

Clinical features of different types of burn as per sushrut Samhita is given below-

Clinical features	Plusta 8	Durdagdha:9	Samyagdagdha:10	Atidagdha:11
	Discoloration (vivarna). Burning pain with no blisters (plusyate atimatram).	<ul style="list-style-type: none"> <li>• Blisters (sphota),</li> <li>• Severe pain, redness, suppuration, (tibrasosh, daha,</li> </ul>	<ul style="list-style-type: none"> <li>• Without the features of Atidagdha (anavagarham),</li> <li>• Colour of ripe</li> </ul>	<ul style="list-style-type: none"> <li>• Sloughing out (mamsaavalamvana , gatravislesha).</li> <li>• Injuries of vessels, ligaments, joints</li> </ul>

		raga, paka), Pain lasting for long duration (vedanachirasy-aupasamyati).	palm tree fruit (pakvatalaphal varna), <ul style="list-style-type: none"> <li>• Neither elevated nor depressed (susamsthitam),</li> <li>• Along with the features as mentioned above.</li> </ul>	and bones (sira snayu sandhi asthivyapaanam atimatram), <ul style="list-style-type: none"> <li>• Fever (jwara),</li> <li>• Burning sensation (daha),</li> <li>• Thirst (pipasa), Fainting (murcha),</li> <li>• Delayed healing (chirenruhati),</li> <li>• Discoloration (vivarna) after healing.</li> </ul>
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### B.ASTANGA HRIDAYA16

Clinical features	Tuccha	Durdagdha:	Samyagdagdha	Atidagdha
	Discoloration (twagvivarna). <ul style="list-style-type: none"> <li>• Severe burning pain (oshateatyartha),</li> <li>• Absence of blisters (nasasphotasa mudbhava).</li> </ul>	<ul style="list-style-type: none"> <li>• Blisters (sasphota),</li> <li>• Severe burning pain (dahativraosha).</li> </ul>	<ul style="list-style-type: none"> <li>• Sounds of liquid and collection of lymph like fluid at the site of injury (sabdallalasikan vitam),</li> <li>• Color of ripe palm tree fruit or dove (pakvatalaka potava),</li> <li>• Good healing (suroham),</li> <li>• Not much severe pain (na-ativedana).</li> </ul>	<ul style="list-style-type: none"> <li>• Sloughing out (mamsaa valmban),</li> <li>• Contraction (sankocha),</li> <li>• Burning (daha),</li> <li>• Smoky vision (dhupan),</li> <li>• Pain (vedana),</li> <li>• Destruction of vessels etc. (siradinasa),</li> <li>• Thirst (trisna),</li> <li>• Fainting (murcha),</li> <li>• Severe wound (vranagambhirya) and Death (mrityu).</li> </ul>

### C.ASTANGA SAMGRAHA17

Clinical features of Dagdha Vrana elaborated by Astanga Samgraha as follows-

Clinical features	Tuttha	Durdagdha	Samyagdagdha	Atidagdha
	<ul style="list-style-type: none"> <li>• Localized discoloration (Vivarnam)</li> <li>• Severe burning sensation (usyateatimatram)</li> </ul>	<ul style="list-style-type: none"> <li>• Formation of Blisters (sphota),</li> <li>• Severe burning sensation locally (tivraosha).</li> <li>• Burning (daha) and pain (ruja).</li> <li>• It takes long time to heal</li> </ul>	<ul style="list-style-type: none"> <li>• Colour of ripe palm tree fruit (pakkvatala phalvarna).</li> <li>• Neither elevated nor depressed (samasthita).</li> <li>• Along with</li> </ul>	<ul style="list-style-type: none"> <li>• Severe pain (ugraruja).</li> <li>• Feeling as though hot smoke coming out (dhumayana),</li> <li>• Muscles coming out (mamsapralamban).</li> <li>• Disorders of vessels (siradivypad).</li> </ul>

		(chirasyaupasamyati).	the features mentioned earlier.	<ul style="list-style-type: none"> <li>• Wound becoming deeper (gambhirvranata),</li> <li>• Excessive rise of temperature (jwar),</li> <li>• Excessive Burning sensation in whole body (daha)</li> </ul>
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#### D. HARIT SAMHITA

Clinical features described by Harita Samhita as follows

Pittaja daha	Samyag dagdha	Atidagdha
In this types of dagdha (burn injury) skin is destroyed and there is involvement of rakta and pitta.	Nirdosha, there are 4 types of samyak dagdha described by Harita Samhita.	In this type of burn injury there is involvement of Vata, Pitta, Kaphasrita, finally there is extension upto Mamsa (muscular) layer.

#### E.YOGA RATNAKAR

Clinical Features of burn according to Yogaratnakar as follows

Clinical features	Plusta12	Durdagdha:13	Samyagdagdha14	Atidagdha15
	Discoloration without any blister (vivarnamatram)	<ul style="list-style-type: none"> <li>• Blisters (sphota).</li> <li>• Severe pain, redness, suppuration, (tibradaha, raga, paka),</li> <li>• Pain lasting for long duration (vedanachirasya upasamyati)</li> </ul>	<ul style="list-style-type: none"> <li>• Without the features of Atidagdha (anavagarham),</li> <li>• Colour of ripe Palm fruit (pakvatala phalvarna)</li> <li>• Neither elevated nor depressed (susamsthitam),</li> <li>• Features as mentioned above (purvalakshanayuktam).</li> </ul>	<ul style="list-style-type: none"> <li>• Sloughing out (twagmamsaavalamvana, gatravislesha)</li> <li>• Injuries of vessels, ligaments, joints and bones (sirasnayusandhiasthi-vyapaanamatimatram)</li> <li>• Pain (vedana)</li> <li>• Fever (jwara)</li> <li>• Burning sensation (daha)</li> <li>• Thirst (pipasa)</li> <li>• Fainting (murcha)</li> <li>• Difficulty in breathing (swasa)</li> </ul>

## PRINCIPLE OF TREATMENT FOR DAGDHA VRANA MENTIONED IN DIFFERENT CLASSICS

### A. SUSRUTA SAMHITA<sup>[19]</sup>

Plusta	Durdagdha	Samyagdagdha	Atidagdha
Application of heat (swedan), medicine, local application, food etc. should be of hot potency (ushna virya).	Application of Cold therapy (sheeta kriya) in deep burn and hot therapy (ushna kriya) in superficial burn. Another viewpoint is that if there is an excessive burning sensation, cold therapy should be applied, and if there is no excessive burning sensation, hot therapy should be used. Ghritalepa and seka, for example, should be cold.	Tugaksheeri, Plaksha, Chandan, Gairik, Guduchi, and Ghrita are all used locally. This mixture takes a long time to dry and soothes pitta. Vata is pacified by a paste (lepa) made from many sorts of terrestrial and aquatic animals. Pitta vidradhi-like treatment should be provided if there is a lot of searing discomfort	<ul style="list-style-type: none"> <li>Surgical debridement,</li> <li>Cold therapy,</li> <li>Local application of Shali tindulkanva with Ghrita; or Tindukitvaka, kapal and ghrita.</li> <li>Using leaves from aquatic plants such as Utpal to cover the wound. If the wound is afflicted with pitta and rakta, wrapping it with Guduchi leaves aids in the removal of usma and vrana ropan.</li> <li>Treatment like Pitta Visarpa should be provided.</li> </ul>

### B. ASTANGA HRIDAYA<sup>21</sup>

Treatment principle for Dagdha Vrana described by Astanga Hridaya as follows

Tuccha	Durdagdha	Samyagdagdha	Atidagdha
Application of heat, hot therapy	At the beginning application of cold and hot therapy alternatively; later on only cold therapy.	Local application of Tugaksheeri, Plaksha, Chandan, Gairik, Guduchi, and Ghrita. Treatment like Pitta Visarpa.	Pitta Vidradhi like treatment

### C. ASTANGA SAMGRAHA<sup>22</sup>

The principle of treatment for Dagdha Vrana found in Astanga Samgraha as follows.

Tuccha	Durdagdha	Samyagdagdha	Atidagdha
<ul style="list-style-type: none"> <li>Pratapan (To heat)</li> <li>Ushna kriya (Heat therapies).</li> </ul> <p>The solidified (clotted) blood will not come out with cold therapies, and once inside, there will be an increase in pain; therefore, treatment should be done only after the heat has been expelled.</p>	<ul style="list-style-type: none"> <li>Shita and Ushnakriya (cold and hot therapies)</li> <li>Ghritlepa (Application of ghee)</li> <li>Wound to be Wash with cold decoction (drugs which possess cold potency)</li> </ul>	In Samyagdagdha wound should be applied with Tavakshiri, Plaksha, Candan, Gairik, Amrita processed in Ghee, or with a paste of animals living in marshy region. After heat subsides treatment as Pitta Vidradhi should be done.	<ul style="list-style-type: none"> <li>Muscles drooping should be cut off.</li> <li>Cold therapies.</li> <li>Application of Ghee macerated with broken rice or decoction of the bark of Tinduka.</li> <li>Wound to be Covered with leaves of Guduchi or that of Upodika.</li> <li>Similar Treatment as PittaVisarpa.</li> </ul>

**D. HARIT SAMHITA<sup>23</sup>**

Treatment principle for dagdhavrana described by Harita given as follows-

**Isaddagdha**

- Local application of kanji.
- Local application of some or all of the following: Nimbi patra, Tulasipatra,

**Madhya dagdha**

Application of Payasya Locally. Local application of Ghrita processed with Madhu, Kustha and Manjistha.

Local application of Kustha, Yasthimadhu, Chandan, Eranda patra pasted with milk.

**E. YOGA RATNAKAR<sup>[20]</sup>**

Treatment principle given by Yogaratnakar for different burn injuries as follows-

Plusta	Durdagdha	Samyagdagdha	Atidagdha
Tapana, Ushnavirya drug (Hot potency medicines)	Application of Shita and Ushnakriya (Cold and hot measures), Ghrita lepana (application of Ghee), Shita Virya drug (Cold potency drugs) Seka	Tugakshiri, Plaksha, Chandan, Gairika, Amrita, mix with Ghee and cover the wound	Destroyed mamsa are removed, Cold measures should be taken, Shali Chawal powder should be applied. Tinduka bark powder mix with its decoction to be applied on the wound.

**F. BHAVAPRAKASH**

Treatment principle for Dagdhavrana described by Bhavaprakash is almost similar to Sushruta Samhita.

**As mentioned in Ayurveda classics common dressing material for all types of burn wounds**

The following medicines are prescribed for burn wound.

1. Langali ghrita: Haridra, Daruharidra, Manjistha, Madhuka, Lodhra, Katphala, Kampillak, Meda, Mahameda, Pippali, Triphala, Nimbapatra: mixed with Goghrita and cow's milk and Beeswax.
2. Pathya, Kardam, Jiraka powder, Beeswax, Sarjarasa, Ghrita
3. Lepa containing Beeswax, Madhuka, Rodhra, Sarjarasa, Manjistha, Chandan. Murva, Ghrita.

4. Tugaksheeri, Plaksha, Chandan, Gairik, Guduchi, Ghrita.
5. Kutherak (swetaTulsi) churna prepared by antardhumak process, mixed with honey or water.
6. Powder of dried Aswattha bark.
7. Oil (Til oil prepared by tailapak process) processed with earthworm.
8. Dagdha Yava bhasma powder, mixed with Til oil.
9. Katu taila processed with kalka and kashay of Patola
10. Kalka of Chandan, Vatasringa, Manjistha, Madhuka, Prapoundarik, Durva, Patanga, Dhataki; processed with Til oil and cow's milk
11. Jatyadi taila: Tila oil processed with kalka of leaves of Jati, Nimba, Patola, Naktamal, Beeswax, Madhuka, Kustha, Haridra, Daruharidra, Katurohini, Manjistha, Padmak, Pathya, Lodhra, Nilkamal, Sariba, Tuthak, fruit of Naktamala.
12. Dhataki flower powder mixed with Atasi oil.
13. Triphala powder prepared by antardhumadagdha, mixed with Atasi oil
14. Local applications which are useful in Pittavidradhi and visarpa.
15. Shalitanuladi ghrita lepa; application of Shali, Tandulkanva, Tindukitvaka, ghrita.
16. Ghee processed with Siktaka, Kardama, Jirak, Madhu, Pathya.
17. Ghrita, Karpur churna, Gairik, Lodhra.
18. Amlaki, Tila, Kustha
19. Mixture of Paste of Lodhra, Ushir, Manjistha, mixed with cold water.
20. Oil extracted from Atasi, Mulethi, Ghrita.
21. Covering with burn wound with aquatic plant such as Utpal (lotus)

Surgical debridement and irrigation debridement are described in Ayurveda for vrana and are particularly useful for vrana sodhana of Dagdha Vrana. After debridement of the wound pralepa (ointment) to be applied or smeared over the burn wound so that the brana ropan (wound healing) can be achieved.

### **Concept of burn care unit in Ayurveda (Vranitaagar)**

The room where burn patients to be kept was described in Sushrut Samhita. The ward for the individual with wounds should be clean, free of strong winds and sunlight, and in a suitable position. A comfortable and attractive bed should be provided so that the patient can move around freely. Objects of worship should be kept on the northern side and the patient's head should be turned to worship on the northern side. He should be surrounded by loving and



caring people such as friends and family members who can keep him in a good mood and boost his confidence so that he can face challenges such as pain.

### SUMMARY AND CONCLUSION

In ayurvedic system of medicine etiopathogenesis, clinical presentation, gradation and different modalities of treatment are described for burn wound. From the era of Sushruta Samhita, Charak Samhita to Yoga Ratnakara, Bhavaprakash chronological description of burn wound found which are very relevant even our day today surgical practice. Though description of burn wound found in most of the ayurvedic treatise, Sushruta Samhita, the text book of Indian Surgery dominated all in terms of systematic burn care.

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