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### A Review – Role Of *Sandhaniya Mahakashaya* In The Management Of Wound Healing

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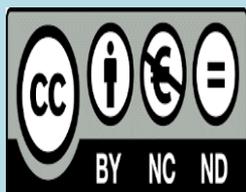
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#### ABSTRACT: -

Wound, known by the term '*Vrana*' in *Ayurveda* refers to the Injury of Skin. More specifically explained as the damage caused to the Epidermis of Skin by any kind of Injury. Nowadays, the most challenging clinical problem faced by the clinicians is the Healing of Wounds. Therefore, one has to adopt a correct and efficient clinical treatment protocol. *Ayurveda*, the ancient traditional system of medicine is with a rich source of knowledge and is known as Ethnopharmacological and Folklore based system. *Charaka Samhita*, one of the famous treatises of this traditional medicine, is with a rich heritage of knowledge. In *Sutra Sthana*, 4<sup>th</sup> chapter "*Shad Virechana Shatashriteya*" of *Charaka Samhita*, *Acharya* has explained about 50 *Mahakashaya* or *Dashemani*. These are groups containing 10 herbs each, exhibiting one common Pharmacological action. One such group is, the *Sandhaniya Mahakashaya*, called Unifying medicine<sup>[1]</sup>. It includes: - *Madhuyashthi*[*Glycyrrhiza glabra* Linn.], *Guduchi* [*Tinospora cordifolia* Miers.], *Prishniparni*[*Uraria picta* Desv.], *Patha*[*Cissampelos pareria* Linn.], *Lajjalu*[*Mimosa pudica* Linn.], *Mocharasa*[*Bombax ceiba* Burm.f.], *Dhataki*[*Woodfordia fruticosa* Kurz.], *Lodhra*[*Symplocos racemosa* Roxb.], *Priyangu*[*Callicarpa macrophylla* vahl.], *Katphala*[*Myrica esculenta* Buch-Ham.]. It is well-known fact that, certain plants can repair the wound in their natural way. Therefore this traditional system of medicine helps in finding that specifically apt herbal drugs, which can help in Regeneration and Growth promotion of the damaged body tissues. So in this article, each drugs of *Sandhaniya Mahakashaya* are explained concerning its ability to manage the wound.

**Keywords** – *Sandhaniya, Vrana, Mahakashaya, Ayurveda*



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## INTRODUCTION

The great *Ayurvedic Surgeon, Acharya Susruta* in *Susruta Samhita Chikitsa Sthana*, elaborately describes *Vrana* (Wound) as, a term derived from the root word '*Vran*' meaning splitting /tearing of body tissue, and thus called as '*Vrana*'(Wound) <sup>[2]</sup>. In more detail *Acharya* has defined *Vrana* as that which leaves a scar after destruction of the skin, by any kind of intrinsic or extrinsic factors. The two main types of *Vrana* are *Nija* (Bodily) and *Agantuja* (External) *Vrana*. The *Nija* (Bodily) *Vrana* occurs due to the intrinsic factors, which is caused by the aggravation of *Tridosha* whereas *Agantuja* (External) *Vrana* arises due to the external factors such as Assault/Injury to the body. The pathogenesis of *Vrana* (Wound) is described as, the destruction of *Mamsa dhatu* due to the adoption of its etiological factors, resulting in *Rakta dushti*. In *Susruta Samhita Acharya* describes three stages for *Vrana* (i) *Ama* stage (Unsuppurated Wound), (ii) *Pachyamana* stage (Early Suppurated Wound) (iv) *Pakva* Stage (Fully Suppurated Wound). Healing of wound is a complex and dynamic process with a series of coordinated events including Bleeding, coagulation, development of an acute inflammatory response to the initial injury, regeneration, migration, and proliferation of connective tissue and parenchyma cells, also synthesis of extracellular matrix proteins, remodeling of new parenchyma, connective tissue, and collagen deposition. These can be concluded

under 4 headings: (i) Coagulation and Hemostasis (ii) Inflammation (iii) Proliferation (iv) Wound remodelling with scar tissue formation.

The treatment aspect of *Vrana* (Wound) pinpoints mainly to the transformation of *Dushta Vrana* (Infected wound) to *Sudha Vrana* (Clean wound). *Susruta Acharya* had described the treatment of *Vrana* (Wound) in general through the *Shashti Upakrama* (60 Procedures), which can be simplified and included under the Seven *Upakrama* of *Sopha* (Inflammation), they are *Vimlapana* (Kneading), *Avasechana* (Blood letting), *Upanaha*(Warm poultice), *Patanakriya*(Incising), *Sodhana* (Purification), *Ropana* (Healing) and *Vaikritapaham*(Removing of the abnormalities)<sup>[3]</sup>. The general line of treatment of *Vrana* (Wound) includes the usage of drugs, having *Sodhana* (Purification), *Ropana* (Healing), *Daha hara*(Removes inflammation) and *Srava hara*(Removes exudation) properties. The different *Mahakashays* mentioned by *Charaka Acharya* are being used in different pharmaceuticals forms for the purpose of treatment. One among this is the *Sandhaniya Mahakashaya*, consisting of a group of 10 different unifying medicinal plants, which are being studied here. In general, *Ayurveda* suggest that drugs which are *Katu*, *Tiktha*, *Kashaya*, *Madhura Rasa* with *Amapachaka*, *Tridosha hara*, *Krimi hara*

, *Vrana hara* and *Visha hara* properties are used for the management of wounds [4][5].

## MATERIAL AND METHODS

All the necessary information related to the concept of Wound and its Healing process from both Modern and *Ayurvedic* Literature had

been collected along with Google search. The *Sandhaniya Mahakashaya* drugs were taken to study in detail about the *Sandhaniya Karma* of all its 10 drugs, from *Charaka Samhita Sutra Sthana 4<sup>th</sup>* chapter along with its commentary and from various other *Dravya Guna Vijnana* books.

**Table no: 1 Description Of Drugs In *Sandhaniya Mahakashaya* With Their Important Pharmacological Action [6][7]**

SL	DRUGS	BOTANICAL NAME	FAMILY NAME	RASA	GUNA	VIPAKA	VIRYA	KARMA
1.	<i>Madhuka</i>	<i>Glycyrrhiza glabra</i> Linn.	Fabaceae	<i>Madhura</i>	<i>Guru Snigdha</i>	<i>Madhura</i>	<i>Sita</i>	<i>Balya</i> <i>Varnya</i> <i>Vranahara</i> <i>Sothahara</i> <i>Vishaghna</i> <i>Rakthapittahara</i>
2.	<i>Guduchi</i>	<i>Tinospora cordifolia</i> Miers.	Menispermaceae	<i>Tikta Kashaya</i>	<i>Guru Laghu</i>	<i>Madhura</i>	<i>Ushna</i>	<i>Balya</i> <i>Krimihara</i> <i>Dahahara</i> <i>Vishaghni</i> <i>Deepana</i> <i>Amahara</i>
3.	<i>Prishniparni</i>	<i>Uraria picta</i> Desv.	Fabaceae	<i>Madhura Katu</i>	<i>Laghu Sara</i>	<i>Madhura</i>	<i>Ushna</i>	<i>Tridosasamaka</i> <i>Vranahara</i> <i>Dahasamaka</i> <i>Jwaraghna</i>
4.	<i>Patha</i>	<i>Cissampelos pareria</i> Linn.	Menispermaceae	<i>Tikta</i>	<i>Laghu Tiktsna</i>	<i>Katu</i>	<i>Ushna</i>	<i>Vatakaphahara</i> <i>Vranahara</i> <i>Dahasamaka</i> <i>Krimighna</i> <i>BhagnaSandhanakara</i>

5.	<b>Samanga</b>	<i>Mimosa pudica</i> Linn.	Fabaceae	Tikta Kashaya	Laghu Ruksha	Katu	Sita	Pittakapha hara Vranahara Sandhaniya Sophahara Raktapittaghna Raktastambaka
6.	<b>Mocharasa</b>	<i>Bombax ceiba</i> Burm.f	Bombacaceae	Kashaya	Laghu Snigdha	Madhura	Sita	Pittavata hara Rakthapradara Daha Raktapitta Vranahara Agnidagdha
7.	<b>Dhataki</b>	<i>Woodfordia fruticosa</i> Kurz.	Lythraceae	Kashaya Katu	Laghu Ruksha	Katu	Sita	Pittakaphahara Vranahara Sandhaniya Krimighna Vishaghna
8.	<b>Lodhra</b>	<i>Symplocos racemosa</i> Roxb.	Symplocaceae	Kashaya Madhura Tiktha	Ruksha	Katu	Sita	PittaKaphahara Sitagrahi Vishagna Sothahara Jwarahara
9.	<b>Priyangu</b>	<i>Callicarpa macrophylla</i> vahl.	Verbenaceae	Tikta Kashaya Madhura	Guru,Ru ksha	Katu	Sita	Vatapitta hara Dahahara Jwarahara Vishaghna Stambhaka
10.	<b>Katphala</b>	<i>Myrica esculenta</i> Buch-Ham.	Myricaceae	Kashaya Tiktha Katu	Laghu Tikshna	Katu	Ushna	Vatakapha hara Jwaraghna Amahara Dipana

Explanation of *Sandhaniya* Action of the Drugs [8][9]

Table: 2

<p><b>1. Madhuyashti</b></p>	<p><i>Madhuyashti</i>, commonly called as Liquorice/Sweetwood, is a drug with a sweet taste. In our <i>Ayurvedic</i> science, a wide application of <i>Glycyrrhiza glabra Linn.</i> for the treatment of wound has been described. In modern point of view also, its efficiency in accelerating wound healing is explained. The potent chemical constituents, such as Glycyrrhizic acid and Glabridin, having Antioxidant and Ant-inflammatory properties, act as a potential chemical constituent for the management of all inflammatory disease. The Sweet wood, being <i>Madhura</i> in <i>Rasa</i>, possess <i>Preenana</i>, <i>Kshata Kshinasandhana kara</i>, <i>Sthairya kara</i> and <i>Vishahara</i> actions. With this, the drug provide nourishment, promote proper blood supply to the ulcer, heals up the wound and gives stability for the newly formed tissues. Because of its <i>Sita virya</i>, it is <i>Pitta hara</i> and <i>Rakta prasadaka</i>, thereby helping in the overall healing of the Wound. <i>Yashti madhu</i> is having <i>Vrana Shodhana</i> and <i>Vrana Ropana</i> properties.</p>
<p><b>2. Madhuparni (Guduchi)</b></p>	<p><i>Guduchi</i>, a large globous climber, is very useful drug, which protects from all diseases and possesses the qualities like that of nectar. This plant species is having the ability to promote wound healing, which could be because of its immunomodulatory activity. The bark of the plant is having alkaloids, glycosides, lactones, saponins, steroids, which are mainly responsible for wound healing. The presence of <i>Guru</i> and <i>Snigdha guna</i> gives a nutritive action. The <i>Ushna virya</i> of the drug is responsible for the <i>Deepana</i> action (appetizer) and along with its <i>Tikta rasa</i> prevents the aggravation of <i>Pitta</i>, digests the <i>Ama</i>- toxins, scrapes away the unwanted tissue, dries up moisture, fats &amp; lymph tissue. Thus the <i>Vrana</i> gets proper <i>Paka</i> and gets transformed from <i>Ama</i> stage. <i>Guduchi</i> will remove the microbial growth, reduce the burning sensation, gives firmness to skin and muscles.</p>
<p><b>3. Prishniparni</b></p>	<p><i>Prishniparni</i>, a perennial herb with distinct leaves, is considered as one of the most important <i>Ayurvedic</i> herb that offers immense health benefits for the human beings. The plant is having Antiseptic, Antimicrobial, Anti-inflammatory and Analgesic properties. With its <i>Laghu guna</i>, its effect to heal the ulcer, through <i>Lekhana</i> and <i>Ropana</i> properties is well understood. <i>Prishniparni</i> is one among the roots of <i>Laghu panchamoola</i> in <i>Dashamoola</i> which is a well known standard <i>Ayurvedic</i> medicament for all kinds of inflammatory conditions [10]. The useful part of the plant are Roots, Leaves and also whole plant, where the leaf is having Antiseptic properties, which are traditionally used for the treatment of wounds, genitourinary infections and urinary disorders. The root of plant is also with Antimicrobial and Anti-inflammatory properties, and because of the early accumulation of phosphorous and more deposition of calcium, it's very much useful for fracture healing.</p>

<p><b>4.Ambashtaki (Patha)</b></p>	<p><i>Patha</i>, a climbing shrub, is described as the <i>Agraya</i> among the <i>Tikta Rasa Dravya</i>'s as per <i>Ayurvedic</i> literature. Being <i>Tikta Rasa</i>, it relieves burning sensation, itching, gives firmness to the skin and tissue, scrapes away unwanted tissue, dries up <i>Kleda</i>, <i>Vasa</i>, <i>Majja</i>, <i>Lasika</i>, <i>Puyasweda</i>, which shows that <i>Patha</i> as an efficient drug for the management of wound. The leaf juice of <i>Patha</i> has Antiseptic, Insecticidal and Parasiticidal properties and also used to check Hemorrhage occurring due to cuts and burns. Also various study had proved its Anti-inflammatory activity, Anti-helminthic, Antioxidant and Anti-hemorrhagic effects. The phytochemical constituent called Flavonoid Queretin isolated from <i>Patha</i> shows a significant Antiulcer property.</p>
<p><b>5.Samanga (Lajjallu)</b></p>	<p><i>Lajjallu</i>, is a small herb whose leaves are symmetrically arranged and closes on touch, hence called by the name “ Touch me not plant”. The traditional system of medicine describes it as <i>Tikta and Kashaya</i> in Taste and by nature it is <i>Seeta</i> in potency, thereby it balances <i>Kapha Pitta Dosa</i> and promotes <i>Vrana hara</i>, <i>Sandhaniya</i>, <i>Sopha hara</i> actions. This herb is active against various disease like <i>Atisaara</i>(diarrhoea), <i>Rakthaatisara</i>(amoebic dysentery), Bleeding piles and also it arrests bleeding. This shows its efficiency towards the proper healing of all kinds of wounds. The leaf of the plant is having the various Bioactive components such as Phytosterols, Alkaloids and Glycosides that can facilitates healing, by increasing the rate and extent of wound closure.</p>
<p><b>6. Mocharasa</b></p>	<p><i>Mocharasa</i> is a reddish brown exudate obtained from <i>Salmali malabarica</i>, and is used in pharmaceutical industries for the preparation of medicines used for bleeding disorder. The drug is <i>Sita Virya</i> (good cooling effect), <i>Kashaya Rasa</i>, Demulcent and Haemostyptic. It is very well used to heal wounds, ulcers, inflammation because of its binding nature.</p>
<p><b>7. Dhataki</b></p>	<p><i>Dhataki</i> a straggling leafy shrub with attractive red flowers, is used in alcoholic formulations. Due to its <i>Ropan</i>(healing) and <i>Sita</i> properties, <i>Dhataki</i> helps in quick healing of wound, reduces inflammation and brings back the normal texture of the skin. <i>Dhataki</i> is having <i>Kapha Pitta</i> balancing property and thereby reduces acne and pimples by preventing excess sebum production, removes clogging of pores and reduces inflammation. The phytoconstituent, Wood fordins present in it, helps to relieve pain and inflammation, because of its Analgesic and Anti-inflammatory properties <sup>[11][12]</sup>. <i>Dhataki</i> is having Anti-ulcer, Immunomodulatory and Antibacterial properties, thus useful in ulcers and infection.</p>

<p><b>8. Lodhra</b></p>	<p><i>Lodhra</i>, an evergreen endangered medicinal plant, has the property to stop bleeding. It's an ancient healing herb in the Ayurvedic practice of medicine. <i>Lodhra</i> stem possesses Anti-inflammatory and Anti-ulcer properties, that holds high significance in treating all types of ulcers like ulcerative colitis, peptic ulcer, mouth ulcers etc. The <i>Kashaya</i>, <i>Madhura</i>, <i>Tikta Rasa</i>, the <i>Sita virya</i> and <i>Ruksha guna</i> are very much favourable for the complete management of wound. These Pharmacodynamic features, helps to speed up the healing process and improves wound contracting ability and tissue regeneration capacity. Additionally, being a <i>Pitta shamaka</i>, the drug enhances Cellular growth and Tissue Regeneration. Also this drug has a positive effect on various <i>Dhatus</i>, like <i>Rasa(Plasma)</i>, <i>Rakta(blood)</i>, <i>Mamsa(muscles)</i>, <i>Asthi(bone)</i>.</p>
<p><b>9. Priyangu</b></p>	<p><i>Priyangu</i> is an erect shrub, that has got many useful characters, hence liked by many people. It is a coolant <i>Ayurvedic</i> herb. Being <i>Sita Virya</i>, <i>Tikta Kashaya Madhura Rasa</i>, it is <i>Vata Pitta Samaka</i>, <i>Dahahara</i> and <i>Stambhaka</i>. The bark of the plant is highly useful for controlling bleeding from the wounds.</p>
<p><b>10. Katphala</b></p>	<p><i>Katphala</i>, is a very potent small evergreen tree, that can destroy diseases like <i>Jwara</i>. The plant is having Analgesic, Antimicrobial, Antiulcer, Antioxidant, Anti-inflammatory actions and the bark of <i>Katphala</i> is very much useful to control bleeding from fresh wound, there by helps in the proper healing. The <i>Deepana (appetizer)</i>, <i>Ama hara</i> and <i>Vata Kapha hara</i> features, shows that this drug can give better results for healing of the wound.</p>

## DISCUSSION

*Ayurveda* is considered as unique science with many natural resources showing greater ability towards wound healing. The *Mahakashayas* are considered to be one of the wonderful concepts told by *Acharya Charaka* in *Sutra sthana* 4<sup>th</sup> chapter. Among this, the drugs of the Union Promoting *Mahakashaya* is being studied, to understand its ability towards *Sandhaniya karma* (Improves Cell migration and Cell binding). All the drugs mentioned under *Sandhaniya Mahakashaya* are having either *Katu*(pungent), *Tikta*(bitter), *Kashaya* or *Madhura Rasa*, which are very much essential for the treatment of wounds. At the same time the *Sandhaniya Mahakashaya* drugs are

*Amapachaka*, *Krimi hara*, *Vrana hara* (wound healer), and *Visha hara* (anti-toxic), showing its ability towards the proper management of wounds. Certain specific phytochemicals, being the bioactive components of the plants, are playing one of the major roles in accelerating wound healing. *Sandhaniya Mahakashaya* constitute drugs with common Pharmacological action.

*Mahakashayas* can be used in, any one of the *Panchavidha Kashaya Kalpana* Forms (Five types of pharmaceutical preparations), like *Swarasa* [Juice], *Kalka* [Paste], *Srita* [Decoction], *Seeta* [Cold infusion], *Phanta* [Hot infusion]. But here *Acharya* has used the term only “*Kashaya*” because all the five types

of pharmaceutical preparations are being called as *Kashaya* itself. Through this article an effort has been made for compiling how, each of these 10 drugs exhibit this single action. Also there is a wide scope of research available for these drugs to show its efficiency towards healing of wound.

## CONCLUSION

The evidence related to *Vrana* (wound) and *Vrana Ropaka Dravya* and its actions are well explained in Traditional system of medicine than in Modern science. There are a large number of Medicinal plants, Metals, Minerals and Animal products told in our literature, which are *Vrana Ropaka Dravyas*. But only a few are scientifically proved to understand its efficiency towards wound healing. Ideal healing of wound is explained on the basis of successful closure of wound, without any adverse effect, in minimum number of days. With the explanation of the *Mahakashaya*, Charaka Acharya conveys us the important guidelines for practicing. This forms the first description of Disease specific and *Dosha* specific remedies.

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