A review on Charakokta Shonitasthapaka mahakashaya in Ayurvedic and Modern perspective.

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Abstract:
Blood being one among the seven tissues has its significant role in regulating the function of all vital organs and giving life to individuals. Without proper quantity and quality of blood, the body cannot remain healthy. The fourth chapter of Charaka samhita is related to fifty various groups. In each group, 10 herbs are included having common action. Shonita sthapaka mahakashaya is pronounced for action related to restoring the normalcy of blood. Shonita sthapaka mahakashaya is very specific and only maha kashaya in which only 5 medicines of herbal origin, one metallic compound, one jantav dravya and two byproducts and Mrutkapala. Shonitasthapakaa gana included actions like Raktashodhana [haemostatic], Raktastambhana / blood coagulation/, Raktavilayaka /blood thinning/, Raktavardhanaa / haemopoietic/. Rakta and pitta dosha are the same in nature, so Rakta is mainly vitiated by pitta dosha. Thus, dravyas included in Shonitasthapaka gana have pittashamak properties. So, according to different conditions of Raktavikara [disorders related to blood], we can categorize Shonitasthapaka dravyas in treatment.

Keywords: Shonitasthapaka gana, blood, pitta dosha, Raktashodhana, Raktastambhaka.

Introduction
According to Ayurveda Rakta is one of the seven tissues of the human body. . Acharayasushruta mentioned blood [Rakta] as life[1]. It is essential life-giving tissue in the liquid form. It enhances the tone and complexion of body. It also nourishes Mansadhatu. Yakrtaaand pleehaare upattishana of Rakta.

Blood is a body fluid in humans and other animals that transports necessary substances like nutrients and oxygen to cells and carryout metabolic waste products away from those cells.[2]

Blood disorders are very prone in India as more than 30% people are below poverty line. Blood disorders are related to change in quality as well as quantity of blood. Blood vitiation seen in Skin diseases. Change in viscosity of blood seen in conditions like pulmonary embolism, DVT, strokes and heart attacks. Anemia is condition where there
is decrease in quantity of blood. If there is excessive blood flow in conditions like hemorrhagic disorders, RTA, post-operative surgical care. In most cases, we should be able to control bleeding but in severe cases, however, uncontrolled or severe bleeding can contribute to shock, circulatory failure, damage to tissues and major organs and sometimes death.

The fourth chapter of Charakasamhita is related with fifty various groups. In each group 10 herbs are included having common action. Shonitasthapanamahakashaya is pronounced for action related with restoring normalcy of blood. According to some Acharya, shonitasthapana means to stop excessive blood flow. Shonitasthapanamahakashaya is very specific and only mahakashaya in which only 5 medines of herbal origin like Madhuka, Rudhira, mochrasa, Lodhra, Priyangu, one metallic compound Gairika, one jantavdravya Madhu and two byproducts Sharkara and Laaja and Mrutkapala. Shonitasthapanagana included different properties like

Raktashodhana/haemostatic/, Raktastambhana/ blood coagulation/, Raktavilayaka/blood thinning/, Raktavardhana/haemopoitic/. Rakta and pittadosha are same in nature, so Rakta is mainly vitiated by pittadosha. Thus, dravyas included in Shonitasthapanagana have pittashamaka properties.

Aim

To evaluate the pharmacological action of Shonita-Sthapanagana.

Objectives

1) To study the pharmacognosy of drugs of Shonitasthapanamahakashaya.

2) To assess the activity of drugs of Shonitasthapanamahakashaya with respect to Ayurvedic as well as modern aspect.

Materials and methods

Literary review of Shonitasthapanamahakashaya narrated from Charakasamhita. Study of dravyas included in Shonitasthapanagana done from various nighantu and research articles.

Shonitasthapanamahakashaya contains 10 dravyas as follows –


SHONITASTHAPAKADRAVYAS -

1. Madhu

Fig.1 Madhu[honey]

Madhu is sweet, delicious and pleasant type of Jantavdravya. Its rasa is
Madhura, kashaya, katuvipaka and sheetaveerya. Laghu, ruksha, vishad, sukshma are guna of Madhuradya. It pacifies all three Doshas, having Vrana Shodhana, Sandhana, Ropana and Krimihara property. It is mentioned in shonita-sthapana Mahakashaya as well as in Sandhaniya Mahakashaya. According to Charakasamhita Madhu pacifies Rakta, pitta and kaphadosha. Madhu act as a yogawahidravya it means when it uses with other medicine then it capture properties of that medicine.

In Charaka chikitsa 4th adhyaya, Madhu is said to be use with paravatshakutachurna in case of "grathit Rakta dushti". Natural honey contains phospholipase and melittin. Madhu shows Anti-thrombotic action. It means Madhu helps to increase blood clotting time and showed the inhibitory effect on platelet aggregation & blood coagulation.

Fig.2 Root of liquorice

Fig.3 Madhuka plant

Latin name of Madhuka/licorice/ is Glycyrrhizaglabra Linn. It is also known as ‘sweet root’. It has Madhurarasa, Madhuravidaka, sheetaveerya and guru, snigdhaguna. Due to above properties it alleviates vatadosha and pittadosha as well and acts as a Raktaprasadakadravya. Madhukadravya mentioned in sandhinya, kandugna and varnyagana in Charakasamhita. Liquorice is included under jeevaniyagana which is mainly act on Rakta dhatu. In Charakasamhita Madhukadravya is mentioned in treatment of adhoga Rakta dushti.

Glycyrrhizin, a main constituent of Madhukadravya, is a plant based inhibitor of thrombin. It prolongs thrombin and fibrinogen clotting time. Thus, increases plasma re-calcification duration and inhibits platelet aggregation and shows anticoagulant activity. Liquorice acts on circulatory system as enhance the blood flow, building red blood cells. It is used as blood purifier & haemopoitic.

It prevents also deposition of plaque on the walls of blood vessels. Mulethi also minimizes immune allergic reactions as well as that auto immune complications.

It is beneficial in bleeding stomach ulcers caused by aspirin. A recent study from Iranian researchers used aspirin coated with licorice and found that it helped protect against ulcers induced by aspirin, reducing the size and number of ulcers.
3. **Rudhira**

Fig.4 crocus sativus Linn.

It is a ‘Gall’ of *Crocus satus Linn.* Plant. *Rakta, asruk, Shonita* are synonyms of *Rudhiradravya.* *Rudhira* has *katu- tiktara* only *dravya* in *Shonitasthapakamahakashaya* having *ushnaveerya*. *Rudhira* pacifies all three *dosha* s. It is proven for its *vranavishodhan* [Anti-inflammatory] property. It improves skin complexion and act as blood purifier.

*Rudhiradravya* is very useful in acne and pimple prone skin and thus, reduces pigmentation over skin. Naveed Akhtar concluded that a cream formulation containing *Crocussativus* extract has significant depigmentation & anti-erythema effects on human skin due to apparently reduced melanin & erythema levels in the skin\(^{[19]}\). Two clinical trials had established antipruritic & complexion promotion effects of saffron\(^{[20]}\).

*Rudhir* is a cardio tonic, cardio protective and anti-atherosclerotic effects help in lowering blood cholesterol and triglycerides. It keeps the blood pressure under control\(^{[21]}\).

For this purpose take 50 mg. of saffron dissolved in 100 ml. of milk was administered twice a day to human subjects, and the significant decrease in lipoprotein oxidation susceptibility in patients with coronary artery disease (CAD) indicates the potential of saffron as an antioxidant as it contain Carotenoids, phenolics, & flavonoids\(^{[22]}\).

4. **Mocharasa**

Fig.5. *Mocharasa* [Resin of Salmaliamalabarica Schott &Endl.]

This *dravya* is nothing but the resin of *Shalmali* plant [exudate]. *Mocharasaposseseskashayarasa,* sheetaveerya. So, it helps to stop bleeding. It shows Grahee and balya properties. It decreses Kapha-pittadoshas.

In *AyurvedicsamhitasMocharasa* is mentiones in treatment of Rakta-pradara, Rakta-pitta, Raktaatisara.

Tannic acid and Gallic acid are main constituents present in *Mocharasawhich act as astringents. Mocharasa* is haemostatic agent due to
its raspanchaka& chemical constituent Tannin. It is used in many bleeding problems such as menorrhagia, metrorrhagia, excessive menstrual bleeding of various aetiology, haemorrhoids, haemoptysis of pulmonary tuberculosis and influenza, malaena, diarrhea and dysentery\(^{23}\).

5. Mrutkapala

Fig. 6 Mrutkapala[Erthen pot pieces]

In Charakasamhita Mrutkapala is indicated in Raktapitta with Atarushaka, Priyangu, Lodhra, Madhukwath\(^{24}\), and Mrutkapala with Madhuka&Madhu mentioned as Raktasangrahamanparam\(^{25}\)/best haemostatic agent/.Why Mrutkapala[Erthen pot pieces] has been added in the Shonitasthapanamahakashaya is still not resolved.

6. Lodhra

Fig. 7 Lodhra/SymplocosracemosaRoxb./fig.8 Lodhra/SymplocosracemosaRoxb./

Latin name of Lodhra issymplocosracemosaRoxb. Main part used is Stem bark. Lodhra having kashaya – tktaras and sheetaveerya. Due to its raspanchaka it shows ‘Raktastambhaka’ and ‘Raktasangrahaneeya’ activity.

In Charakachikitsasthan 30 thadhyaya, bark of Lodhra is mentioned in treatment of Rakta-pradar\(^{26}\). External application of Lodhra powder act as Haemostatic\(^{27}\).

Lodhradravya contains loturine which is alkaloid and proven for astringent property. Lodhra with jaharmohrapishti or with nagkeshar and pravalabhasma with tandemodakaanupanais very useful in uterine complaints like DUB, menstrual disorders like menorrhagia.

From the result of the study on Lodhra, it was found that drug S. Racemosa at a dose level at 25 µl/100gm body weight in albino rabbits showed a significant decrease in whole blood coagulation time, prothrombin time and fibrinolytic activity. The author concluded that S. Racemosaposesses significant anti-hemorrhagic potential.\(^{28}\)/Hand book of Medicinal Plants/S.K. Bhattacharjee/mentioned that Lodhra is
used to treat excessive bleeding during menstruation. The decoction prepared from bark is given 50-60 ml to treat diarrhea, uterine bleeding disorders [DUB], bleeding piles as well as epitaxis because decoction constricts smaller blood vessels & controls bleeding.\(^{28}\)

7. **Gairika**

![Gairika](image)

*Fig. 9 Gairika [Ferrum haematite]*

Lohita, Raktapashana, Raktadhatu are synonyms of Gairikadravya which is only metallic compound added in Shonitasthapakamahakashaya. It has kashaya- Madhurarasa, Madhuravipaka and sheetaveerya. Gairika is indicated in Raktapitta, Arsha, Raktapradara. It shows Raktapittashamaka activity.

ShuddhaGairika is an astringent and haematinic. It increases hemoglobin level because rich sources of iron. Gairika was found to be effective in controlling heavy menstrual blood flow & in improving general condition. It is also concluded that single drug Geru can effectively be used for controlling bleeding instead of combination of multiple drugs or hormonal treatment by its astringent & styptic properties.\(^{29}\) ShuddhaGairikais also used in treatment of Netraroga, Raktapitta, hikka, vamana, vatavikara, Raktapradara, kandū, Jwara, dhaaand Udara-roga.

8. **Priyangu**

![Priyangu](image)

*Fig. 10 Priyangu [callicarpamacrophylla Vahl.]*

Latin name of Priyangudravya is *Callicarpamacrophylla*. It has Tikta, Kashaya, MadhuraRasa that alleviates Pittadosha and KatuVipaka, Sheetaveerya. There are two varities, one is Priyangu and second is Gandh-Priyangu. Both varities used as Raktapittashamaka.

According to priya-nighantu and Charakasamhitáchaya.su. Priyangu is best medicine for Raktapittaroga. Priyangu also mentioned in Raktatisarachikitsa by Acharya Charaka.\(^{30}\)

Khare CP & et.al concluded that *Callycarpamacrophylla* is mainly used to “Purify the blood” & to treat skin diseases.\(^{31}\) In animal experiments, *Callicarpamacrophylla* showed the effect of promoting blood coagulation by increasing Platelet count, Vasoconstiction.\(^{32}\)

9. **Sharkara**

![Sharkara](image)

*Fig. 11 Sharkara [Sugar]*

Khare CP & et.al concluded that *Callycarpamacrophylla* is mainly used to “Purify the blood” & to treat skin diseases.\(^{31}\) In animal experiments, *Callicarpamacrophylla* showed the effect of promoting blood coagulation by increasing Platelet count, Vasoconstiction.\(^{32}\)
Sharkara having Madhurarasa, Madhuravipaka, sheetaveerya. Due to Rasapanchaka it acts as a ‘Raktapittaprashamaka’ according to Charaka and Dhanvantarinighantu. In Rajnighantu Sharkara is mentioned as ‘Raktadosahara’. As Sharkara is proven for its Anticoagulant and anti-thrombotic activity, it shows ‘Vranaropakakarya’.\(^{[33]}\)

10. Laaja

**Fig.12 Laaja [Fried paddy]**

Laaja shows pittashamaka activity by its Madhura- Kashayarasa and sheetaveerya.

Laaja indirectly helps in Raktavardhana [increasing quality of blood].\(^{[34]}\) Laaja also mentioned as Pathyakahara in Raktapitta, chardi, atisara & grahanivikara by various Acharyas in ayurvedicsamhitas.

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**Table no. 1- Rasa-veerya-vipaka of Shonitasthapakadravyas**

<table>
<thead>
<tr>
<th>Sr. No.</th>
<th>Dravya Name</th>
<th>Rasa</th>
<th>Vipaka</th>
<th>Veerya</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Madhu</td>
<td>Madhura, Kashaya</td>
<td>Katu</td>
<td>Sheeta</td>
</tr>
<tr>
<td>2.</td>
<td>Madhuka</td>
<td>Madhura</td>
<td>Madhura</td>
<td>Sheeta</td>
</tr>
<tr>
<td>3.</td>
<td>Rudhira</td>
<td>Katu, Tikta</td>
<td>Katu</td>
<td>Ushna</td>
</tr>
<tr>
<td>4.</td>
<td>Mocharasa</td>
<td>Kashaya</td>
<td>Katu</td>
<td>Sheeta</td>
</tr>
<tr>
<td>5.</td>
<td>Mrutkapala</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>6.</td>
<td>Lodhra</td>
<td>Kashaya, Tikta</td>
<td>Katu</td>
<td>Sheeta</td>
</tr>
<tr>
<td>7.</td>
<td>Gairika</td>
<td>Kashaya, Madhura</td>
<td>Madhura</td>
<td>Sheeta</td>
</tr>
<tr>
<td>8.</td>
<td>Priyangu</td>
<td>Tikta, Kashaya, Madhura</td>
<td>Katu</td>
<td>Sheeta</td>
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<tr>
<td>9.</td>
<td>Sharkara</td>
<td>Madhura</td>
<td>Madhura</td>
<td>Sheeta</td>
</tr>
<tr>
<td>10.</td>
<td>Laaja</td>
<td>Madhura, Kashaya</td>
<td>Madhura</td>
<td>Sheeta</td>
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</tbody>
</table>

**Table no. 2 Panchamahabhautikasanghatana of shonitasthapakaganadravya.**
<table>
<thead>
<tr>
<th>Sr. No.</th>
<th>Dravya Name</th>
<th>Panchamahabhautikasanghatana</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Madhu</td>
<td>Prithvi, Jala, Vayu</td>
</tr>
<tr>
<td>2.</td>
<td>Madhuka</td>
<td>Prithvi, Jala</td>
</tr>
<tr>
<td>3.</td>
<td>Rudhira</td>
<td>Vayu, Teja, akasha</td>
</tr>
<tr>
<td>4.</td>
<td>Mocharasas</td>
<td>Prithvi, Vayu</td>
</tr>
<tr>
<td>5.</td>
<td>Mrutkapala</td>
<td>Prithvi, Jala, Vayu</td>
</tr>
<tr>
<td>6.</td>
<td>Lodhra</td>
<td>Prithvi, Vayu, Akasha</td>
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<td>7.</td>
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<td>Prithvi, Vayu, Jala</td>
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<td>Vayu, Prithvi, Jala, Akasha</td>
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<tr>
<td>9.</td>
<td>Sharkara</td>
<td>Prithvi, Jala</td>
</tr>
<tr>
<td>10.</td>
<td>Laaja</td>
<td>Prithvi, Vayu, Akasha</td>
</tr>
</tbody>
</table>

**Discussion**

Shonitasthapakadravyas mainly possesseskashaya and Madhurarasa, katu or Madhuravipaka and sheetaveerya except Rudhiradravya. Kashayarasa has vayaviya and parthivamahabhutasanghatana. Due to thismahabhutasanghatana, they possesses sthira, guru, sanghatakara and rukshaguna. So, sthambhana and shoshanakarmacan be seen. It can be relate with vasoconstriction action. That means, they stimulatesprothrombin net formation and trapping of platelets at the site of injury. Thus shows platelet aggregation and reduces bleeding. e.g. lodhra, mocharasas, gairika, mrutkapala.

Tiktarasadravya are best Agnideepak and Aampachaka. They possesses Vayu and aakashamahabhuta. Due to vishadaguna (cleansing action), they shows saptadhatushodhana and doshapachana activity and thus, Raktashodhana activity. e.g. priyangu, rudhira

Dravyas like Madhuka and sharkara shows Raktavilayaka action. This action can be seen due to Jalamahabhuta’sdravaguna and kledana as well as vishyadana property.

Some dravya works by their katuvipaka. So, they have prominence of Jalamahabhuta and shows Raktavilayaka property byusukshma as well as ushnaguna.

e.g. madhu.

Laajadravyais mentioned as Pathyaaahara in samhitas. It has prominence of pruthvi, aapa and Vayumahabuta. So, they are best in preenana, dhatuposhana and dhatuwardhana karma. So, it helps to increase the quantity of blood (raktavardhana action) and gives laghavata (lightness) to body.

**Conclusion**

There are two main causes of bleeding, first is agantuka & second is doshaprakop. Rakta and Pittadosha both are same in nature so Rakta is vitiated.
mainly by Pitta thus shonitsthapanadrugs have pittashamaka properties. They removes derangement of vitiated shonita[Rakta] and bring back it to normal state. So, according to different conditions of Raktavikara[disorders related to blood], we can categorize Shonitasthapakadravyas in treatment.

- Raktavardhana – Laaja
- Raktastambhana- Lodhra, Mocharasa, Gairika, Mrutkapala
- Raktavilayaka – Madhu, Madhuka, Sharkara.
- Raktashodhan – Priyangu, Rudhira

Blood being one among the seven tissues, has its significant role in regulating the function of vital organs and to give life to individuals. Without proper amount of blood and regular functions of blood the body cannot remain healthy. The dravya possessing the quality to arrest bleeding are called Raktaskandanadravya. In addition the herbs referred here have Raktavardhana and Raktaprasadan action also. So in total Shonitassthapanagana contribute qualitative and quantitative regulation or normalization functions.

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