



KANKSHI- AN OVERVIEW

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ABSTRACT

Ayurveda, the traditional system of Indian Medicine has enriched the historical background and is one of the great living traditions. The use of processed metals, minerals, and processed herbs as a medicament has been an integral part of Ayurvedic practice. *Rasashastra* is an ancient science of pharmaceuticals that deals with specific procedures and techniques like *Shodhana* (purification), *Marana* (incineration), and *Satva Patana* (extraction of the essence) which converts the metals and minerals into safe and acceptable forms. In *Rasashastra*, one important classification is given as *Maharasa*, *Uparasa*, and *Sadharana rasa* where the drugs are classified into various groups. Among the *Uparasa* group, *Kankshi* is the third mineral drug. In this article, *Kankshi* is reviewed for its physicochemical properties, shodhana, and its medicinal properties.

Keywords: *Kankshi*, Properties, *Shodhana*, *Marana*, *Satva Patana*, *Amayika prayoga (Therapeutic Uses)*, Formulations

INTRODUCTION

Ancient books like *Rasa Tarangini*, *Rasa Ratna Samuchaya*, *Rasamritam*, *Rasarnava*, *Rasa Jala Nidhi*, *Ayurveda Prakasha*, *Rasendra Chudamani*,

Rasa Prakasha Sudhakar have mentioned *Kankshi* in the *Uparasa Varga*. It also has been mentioned in *Brihatrayee*. *Kankshi* popularly known as Alum is

commonly used in the purification of water and as an antiseptic after shaving. It is an octahedral crystalline solid readily soluble in water. Its solution in water is acidic. On heating, the water of crystallization evaporates, and it swells. It is called 'burnt alum'. In *Rasa Ratna Samuchaya*, it is described that *Kankshi* is obtained from the rocks of Saurashtra in the form of clay. *Saurashtra Mrittika* (mud) is cleaned properly to obtain a clean, white-coloured, lustrous mineral. It is identified as '*Kankshi*'. It is used for therapeutic purposes after proper purification. As per the modern concept, it is presumed that in places where Aluminum and Sulphur are present as the constituents of soil. In

India, Saurashtra was the first recognized place for such soil. It is known as a Potash alum.

Vernacular names¹⁰

Sanskrit - *Kankshi, Sphatika, Tuvvari, Sourastri*

English name - Alum, Potash Alum, Double sulphate of Aluminum and Potassium.

Hindi- Phitkari

Telugu- Patika

Tamil, Malayalam- Padigaram

Kannada- Patike

Bangali – Phatkari

Marathi – Phataki

Gujarati - Phatakadi

Arabi – Sibba

Synonyms of *Kankshi*: Table – 1^{4,7}

S. No.	<i>Rasa Tarangini</i>	<i>Ayurveda Prakasha</i>
1	<i>Kankshiri</i>	<i>Kankshi</i>
2	<i>Sphuti</i>	<i>Sphati</i>
3	<i>Kankshi</i>	<i>Swetha</i>
4	<i>Sphutika</i>	<i>Rangada</i>
5	<i>Sphutkarika</i>	<i>Drudharanga</i>
6	<i>Phatika</i>	<i>Ranganga</i>
7	<i>Subhra</i>	<i>Rangadruda</i>
8	<i>Kankshi</i>	
9	<i>Rangada</i>	
10	<i>Drudaranga</i>	
11	<i>Rangadruda</i>	
12	<i>Drudharangada</i>	
13	<i>Rangadhatri</i>	
14	<i>Tuvvari</i>	

Physical properties of *Kankshi*, Table – 2¹

1	Colour	White when pure, grey, yellow, red, reddish brown with impurities
2	Habit	Small crystals are rare usually massive, granular to dense
3	Crystallization	Hexagonal, ditrigonal, dipyramidal
4	Specific Gravity	2.6 – 2.9
5	Hardness	3.5 – 4
6	Luster	Vitreous to dull, Streak – white Diaphaneity – transparent to translucent Cleavage – basal
7	Solubility	Soluble in water, insoluble in acetone
8	Density	1.725 gm/cm ³
9	Boiling point	Decomposes at 200 °C
10	Melting point	92 – 95 °C

Chemical Formula: $K_2SO_4, Al_2(SO_4)_3, 24H_2O$

Dose: 2-4 ratti

Source: ^{1,2}

- *Kankshi* from *Saurashtra Mrittika*

- In India, *Kankshi* is also found in Punjab, Bihar, Uttar Pradesh, and Maharashtra.
- Overseas, the ores are found in Italy, U. S. and the island of Cebu (Philippines). Here it is known as Tawas.

Varieties of *Kankshi*: Table – 3^{3,5,10,12}

S. No.	<i>Rasa Ratna Samuchaya, Rasa Jala Nidhi</i>	<i>Rasendra Chudamani</i>	<i>Rasarnava</i>	<i>Rasamritam</i>
1	<i>Phataki</i>	<i>Isatpeeta</i>	<i>Sita</i> (Khanda)	White
2	<i>Phullika</i>	<i>Subravarna</i>	<i>Krsna</i> (Churna)	Reddish white

Properties of *Kankshi* according to their types: Table – 4³

	<i>Phataki</i>	<i>Phullika</i>
Synonym	Peetika	Phulla tuvari
Colour	Yellow	Light white
Guna	<i>Guru, Snigdha</i>	<i>Snigdha</i>
Rasa		<i>Madhura, Amla</i>
Karma	<i>Vishanashaka, Vranaghna, Kushtaghna</i>	Copper turns into <i>Bhasma</i> if applied with <i>Kankshi</i>

Properties of *Kankshi* according to different texts: Table – 5^{3,4,9,12}

	<i>Rasa Ratna Samuchaya, Rasa Jala Nidhi</i>	<i>Rasa Tarangini</i>	<i>Rasamritam</i>
Rasa	<i>Kashaya, katu, amla</i>	<i>Kashaya. Katu, tikta</i>	<i>Madhura, Kashaya, Ishatamla</i>
Virya		<i>Ushna</i>	
Guna	<i>Kantya, keshya, vranaghni, vishanashini, shvitrapaha, netrahita, tridosahara</i> Used in <i>Parada Jarana</i>	<i>Vishadoshahanti, keshya, visarpagna, kanduhara, switapaha, vranaropana, netrya, vishamajwaranashini, ratimandasankochkarini, vranaharini, grahi, lekha, snigdha, rudhirastravarodhini, mukharogahara, dantadardyakara</i>	<i>Vranaropani, Switrapaha, Grahani, Rudhirastravarodhaka, Mukharogahara, Switranasaka</i>

Artificial Method of preparing *Kankshi* (Alum) ²

1. Potassium sulphate and aluminium sulphate are mixed in equal molecular weight, and dissolved in water and the watery portion is evaporated to obtain crystals of alum.
2. Bauxite is dissolved in concentrated sulphuric acid and added to potassium sulphate. Later it is dried to get alum.
3. Alunite $KAl_3(SO_4)_2(OH)_6$ is calcined and dissolved in water, filtered and the liquid portion is dried to get the crystals of alum.

Shodhana

1. ***Rasa Ratna Sammucchaya, Rasa Jala Nidhi:*** *Kankshi* is soaked in *Kanji* (sour gruel) for 3 days and it is taken out and dried on the 4th day and used.
2. ***Ayurveda Prakasha:*** Alum, which is clean, white, and crystalline, seldom requires purification. In practice, it is burnt and then used.
3. Another method is to dissolve *Kankshi* in water and filter. The filtered water is slowly heated and evaporated. This is also a rational method to purify *Kankshi*¹³

Marana ¹ As per *Parada Samhita*, Suddha *Kankshi* is enclosed in a sarava samputa and subjected to one

laghu puta to obtain white coloured bhasma of *Kankshi* which can be used for all therapeutic properties.

Satvapatana³

Kankshi is grinded with ksara like yavaksara, and *kanji* (sour gruel), and pulp is formed. This is subjected to heating in *andha musa* or *vrntaka musa*. The *sattva*, an active ingredient, gets separated out in a form of aluminium metal. Another procedure is, it is ground in *gopitta* (bile of cow) and subjected to fire after keeping it in the crucible. This satva is useful in the *kramana samskara* of mercury. This *satvapatana* process as claimed in the verse is to be kept confidential.

Amayika prayoga of Kankshi⁴

1. The fine powder of '*Suddha Kankshi*' is added with an equal quantity of '*Suddha Mriddarshringa churna*' and applied daily over wounds to heal them.
2. '*Suddha Kankshi*' is added with cow's milk and the mixture is daily administered as *nasya* to prevent nasal bleeding.
3. Two masa of '*Suddha Kankshi*' is diluted with 2 palas (100ml) of water and used as a vaginal douche. It retains vaginal laxity.
4. Equal ratios of '*Suddha Kankshi*' and '*Suddha Tankana*' are diluted in water. The mixture is daily used for washing the affected skin in '*vicharchika*' to cure the same.
5. The fine powder of '*Suddha Kankshi*' can be filled into any of the fresh wounds to prevent bleeding.
6. Three *ratti*(375mg) of '*Suddha Kankshi*' is added with 5 *tolas* (60ml) of water. The mixture is administered daily as '*uttara basti*' to cure inflammation and infected diabetic wounds in the urinary meatus.
7. To cure severe '*Raktapitta roga*' one *ratti*(125mg) of '*Suddha Kankshi*' is added with an equal quantity of sugar or sugar candy and administered daily, followed by intake of water or *vasa swarasa* as an adjuvant.
8. Six *ratti*(750mg) of '*Suddha Kankshi*' is added with 5 *tolas* (60ml) of water. The mixture is administered daily as '*guda basti*' to eradicate pile masses and their bleeding. It is also helpful in correcting rectal prolapse.
9. The arka of '*Rakta kamala*' (5 *tolas*, 60ml) is added with 4 *ratti* (500mg) of '*Suddha Kankshi*'. The mixture is daily administered as eye drops to cure *abhisandhya roga* associated with pain, burning sensation, inflammation, and redness.
10. One *tola* (12gms) of '*Suddha Kankshi*' is added with 50 *tolas* (600ml) of water. The mixture is administered as '*Yoni basti*' to reinstate the uterus in its normal position after childbirth. It also prevents vaginal itching and excessive secretions.
11. One *ratti* (125mg) of '*Suddha Kankshi*' is added with an equal quantity of '*Rasasindura*' and administered daily to cure '*urdhwaga* and '*Adhoga raktapitta*'
12. Two *ratti* (250mg) of '*Suddha Kankshi*' is added with sugar and administered daily to cure abdominal pain due to Lead toxicity.
13. The fine powder of '*Suddha Kankshi*' is added with '*Bakula twak churna*' and the mixture is used daily for '*Dantadhavana*'
14. Two *ratti* (250 mg) of '*Suddha Kankshi*' is added with '*Indrayava churna*' and administered daily to cure severe '*Atisara roga*'
15. The fine powder of '*Suddha Kankshi*' is added with the fine powders of *Lavanga*, *Ela*, and sugar in equal quantities. The mixture is used daily for '*Dantadhavana*' to cure *danta-sarkara roga*.
16. The fine powder of '*Suddha Kankshi*' (1 *karsha*, 12 gms) is added with an equal quantity of *Saindhava lavana*. The mixture is used daily for '*Dantadhavana*' to prevent excessive smudge over enamels and gum bleeding.
17. Five *tolas* (60 ml) of '*Suddha Kankshi*' is diluted in 60 ml of water and the solution is used daily for gargling. It prevents excessive smudge over enamel and stomatitis. It keeps the throat clean and cures chronic '*Adhi-Jivha*' associated with pain.

Formulations – Table 6 ^{1,3,9,11,13}

S. No.	Name of drug	Reference	Indication
1	<i>Garudanjana</i>	<i>Rasa Ratnakara</i>	For vision as sharp as an eagle
2	<i>Nayanashananjana</i>	- <i>Bhava prakasha; part 2</i> - <i>Yoga ratnakara; netra</i>	<i>Timira, Patala vyadhi, Pushpanash</i>
3	<i>Chatusudha Rasa</i>	- <i>Rasa Ratna Samuchaya; Uttar khanda- Chapter 21</i> - <i>Rasa Raj Sundara; Vaata</i>	<i>Vataroga, Aruchi, Kshaya, Pandu, Mandagni, Gulma, Viryahani</i>
4	<i>Shankhadrava Rasa</i>	- <i>Rasa Tarangini, Dhanvantari, Rasa Pradipa</i> - <i>Vaidya Vilas, Vaidya Chintamani, Rasendra saara Sangraha</i> - <i>Baahat (Hastalikhith Granth)</i>	- <i>Udara Roga</i> - <i>Gulma</i> - <i>Shula, Gulma, Sarvaroga</i>
5	<i>Swetha parpati</i>	<i>Rasoddhara Tantra</i>	<i>Mutrakruchha</i>

CONCLUSION

Although *Kankshi* is used for water treatment and in the dyeing industry it is a simple mineral that is easily available. *Kankshi* in combination with other herbs is used in an array of diseases and is mentioned as *Amayika prayoga* when used in its purified form. It is one of those drugs which doesn't require *Marana* and can be used directly after *Shodhana* in the form of *Shubhra Bhasma* obtained through the process of *Nirjalikarana*. It is one of the main contents of the popular formulation, *Netra bindu* which contains *Kankshi* (1 part) and rose water (16 parts). As Very few research works on a single drug have been carried out, it opens wide avenues for research in the future.

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