

PHARMACEUTICO-THERAPEUTIC SAFETY OF SULPHUR (GANDHAKA) W.S.R TO AYURVEDA

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ABSTRACT

Rasashastra is most important and popular branch of Ayurveda related to Herbo-mineral (Rasaushadhis) preparation techniques with their therapeutic uses. Sulphur is a non metal element which commonly known as *Gandhaka*. It occurs in the nature in the form of pure sulphur, sulphides and sulphates. It plays an imperative role for the maintains of health as skin. Rasashastra classical texts have mentioned that every *Rasavaidya* should know *shodana*, physical properties, therapeutic uses, side effect, doses of the *rasa dravyas*. To know this, present study was carried out on the pharmaceutics-therapeutic safety of sulphur (*gandhaka*) w.s.r to ayurveda.

KEY WORDS: Gandhaka, shodhana, kushta.

INTRODUCTION

Mythologically *gandhaka* got its origin during the time of *ksirabdhi manthana* (churning of milk ocean) along with *Amrita* (nector). It has a very pleasant smell from which all the Gods and Demons present there became very happy and named it as *Gandhaka*.

Ancient *Rasashastra* scholars have also said about *gandhaka* that it is related with Goddess Parvati i.e it got its origin from the menstrual flow of goddess.^[1]

Sulphur is a chemical element with symbol S and atomic number 16. It is abundant, multivalent, and nonmetallic. Elemental sulphur is a bright yellow crystalline solid at room temperature. Chemically, sulphur reacts with all elements except for gold, platinum, iridium, tellurium, and the noble gases.

Sulphur is the tenth most common element by mass in the universe, and the fifth most common in the Earth. Though sometimes found in pure, native form, sulphur on Earth usually occurs as sulfide and sulfate minerals. Being abundant in native form, sulphur was known in ancient times, being mentioned for its uses in ancient India, ancient Greece, China, and Egypt. In the Bible, sulphur is called brimstone. Sulphur is an essential element for all life, but almost always in the form of organosulfur compounds or metal sulphides. Three amino acids (cysteine, cystine, and methionine) and two vitamins (biotin and thiamine) are organosulphur compounds. Many cofactors also contain sulphur including glutathione and thioredoxin and iron–sulfur proteins. Disulfides, S–S bonds, confer mechanical strength and insolubility of the protein keratin, found in outer skin, hair, and feathers. Sulphur is one of the core chemical elements needed for biochemical functioning and is an elemental macronutrient for all living organisms.^[2]

AIMS AND OBJECTIVE

- 1) Improving safety in relation to the use of *gandhaka* (sulphur)
- 2) Contribute to the Assessment of benefit, harm, effectiveness and risk of *gandhaka*.

PHYSICAL PROPERTIES (BHAUTIKA GUNA) OF SULPHUR ACC. TO AYURVEDA

It should resemble like *shukapiccha* (parrot wings), *mrudu*(soft) as like *navneet* (butter), *singdha*.^[2]

Sulphur forms polyatomic molecules with different chemical formulas, the best-known allotrope being octasulfur, Octasulfur is a soft, bright-yellow solid that is odorless, but impure samples have an odor similar to that of matches. It melts at 115.21°C (239.38°F), boils at 444.6°C (832.3°F).

Gandhaka is *rasayana* (Rejuvenation) *madhur rasa* (sweet), *katu vipaka* and *ushna virya* (hot potency).

Therapeutic uses- It is used in *kandu*, *kusta*, *visarpa*, *dadru kusta*. It does the *agnideepana*, *pachana*, it removes the *aama* from gut, *vishahara*, *krimihara*, increases the *virya* of *parada*(mercury)^{[4],[5],[8]}

Gandhaka is *katu tikta kashaya rasa*, *ushna virya*, *pittala*^[6]

Therapeutic uses- *Kandu*, *visarpa*, *krimighna*, *kushta*, *kshaya*, *pleeha* (spleen) disorders, *rasayana*^[5]

Shudha gandhaka destroys the *kushta*, death and old age^[7]

All living things need sulphur. It is especially important for humans because it is part of the amino acid methionine, which is an absolute dietary requirement for us. The amino acid cysteine also contains sulphur. The average person takes in around 900 mg of sulphur per day, mainly in the form of protein. Elemental sulphur is not toxic, but many simple sulphur derivatives are, such as sulphur dioxide (SO₂) and hydrogen sulphide.^[17]

Necessity of Purification

Intake of *ashudha gandhaka* (unpurified sulphur) causes *Kushta* (skin diseases), *tapa* (burning sensation in body), *pittala* disorders, *brahma*, *bala nasha* (decrease in the strength) *varna nasha* (loss of colour and complexion), *virya nasha*.^{[9],[10]}

Sulphur can be found commonly in nature as sulphides. During several processes sulfur bonds are added to the environment that are damaging to animals, as well as humans. These damaging sulphur bonds are also shaped in nature during various reactions, mostly when substances that are not naturally present have already been added. They are unwanted because of their unpleasant smells and are often highly toxic.

Globally sulphuric substances can have the following effects on human health:

- Neurological effects and behavioural changes
- Disturbance of blood circulation
- Heart damage
- Effects on eyes and eyesight
- Reproductive failure
- Damage to immune systems
- Stomach and gastrointestinal disorder
- Damage to liver and kidney functions

- Hearing defects
- Disturbance of the hormonal metabolism
- Dermatological effects
- Suffocation and lung embolism^[17]

Purification (*Shodhana*)

Shodhana is the process by which the unwanted impurities are eliminated from the *dravya* and its efficacy is increased.

The process of removing the impurities from the drugs is known as purification.

- 1) Take *gandhaka* in an iron pan melt it by putting on fire. Then put the melted sulphur in *bhringaraja swarasa*. After getting cooled itself, it is to be taken out and washed with hot water. Repeat the same process for 7 times so that sulphur get purified.^[11]
- 2) Take a earthenware and fill it with cow's milk (half of the quality) and the mouth is covered with the piece of cloth. Keep the sulphur on cloth and cover it with earthen lid (*sarava*) and seal the joint of the mouth of the earthen vessel and lid. Then bury the earthen ware in the ground upto the neck level. Then place the cow dung cake over the lid and set fire (*lagu puta*) due to heat sulphur melts and fall into cow's milk through the piece of cloth, after getting cooled itself collect the lumps of sulphur from the bottom of the earthenware and wash it with hot water.^[12]
- 3) Take a *ghruta* in iron pan heat it and when it melts add equal quantity of sulphur and again heat it, when it melts put it in vessel which is filled with *godugdha* and its mouth is covered b a piece of cloth. Allow it to cool then wash it with the hot water, repeat this process for 3 times.^[13]
- 4) *Swedana* should be done in *dola* yantra filled with *godugdha* for 1 hrs when it gets cooled on its own wash it with the hot water and dry it, after drying make a powder form of it and place it in *ghruta yukta* pan heat it when it melts put it in vessel which is filled with *godugdha* (4 times that of the *gandhaka*) and its mouth is covered b a piece of cloth. Allow it to cool then wash it with the hot water, repeat this process for 3-7 times.^[14]

Dietry Regimen (*Apathyas*)

During *shudha gandhaka* therapy one should avoid use of *kshara*, *amla*, *taila*, *souviraka*, *vidahi anna*, pulses, *madhya*.^[15]

Matra(Doses)

1 to 8 *ratti* (120mg to 960mg)^[16]

CONCLUSION

Gandhaka has most important role for preparing *Rasaushadh* is in *Rasashastra*. So following the above *shodhana* procedure, *matra*, dietary regimen, therapeutic indication one can use sulphur for therapeutic benefits.

REFERENCES

1. Textbook of rasashastra, Dr. Damodar Joshi, Chaukhambha orientalia, varanasi, 198.
2. Wikipedia.
3. Ayurveda prakash, 2/20, shri Gulrajsharma mishra, Chaukhambha bharti akadmi, varanasi, 261.
4. Acharya Somadev krut Rasendrachudamani, 11/5, Dr. Siddhinandan mishra, Chaukhambha orientalia, varanasi, 170.
5. Ayurveda prakash, 2/14, shri Gulrajsharma mishra, Chaukhambha bharti akadmi, varanasi, 258-259.
6. Ayurveda prakash, 2/15-16, shri Gulrajsharma mishra, Chaukhambha bharti akadmi, varanasi, 259.
7. Ayurveda prakash, 2/17, shri Gulrajsharma mishra, Chaukhambha bharti akadmi, varanasi, 260.
8. Rasaratna samuchchya, 3/18, Dr. Indra dev tripathi, chaukhambha sanskrit bhavan, 27.
9. Shri Gopalkrushnabhattachakrut Rasendrasara sangraha, 1/118, narendranath mishren, motilal banarasidas, 30.
10. Ayurveda prakash, 2/18, shri Gulrajsharma mishra, Chaukhambha bharti akadmi, varanasi, 260.
11. Rasaratna samuchchya, 3/24, Dr. Indra dev tripathi, chaukhambha sanskrit bhavan, 28.
12. Rasaratna samuchchya, 3/25-27, Dr. Indra dev tripathi, chaukhambha sanskrit bhavan, 28.
13. Ayurveda prakash, 2/21, shri Gulrajsharma mishra, Chaukhambha bharti akadmi, varanasi, 261.
14. Acharya Somadev krut Rasendrachudamani, 11/8-10, Dr.Siddhinandan mishra, Chaukhambha orientalia, varanasi, 170-171.
15. Acharya Somadev krut Rasendrachudamani, 11/23, Dr.Siddhinandan mishra, Chaukhambha orientalia, varanasi, 174
16. Rasatarangini, 8/39, kashinathshastrina, motilal banarsidas, 182.
17. <https://www.lenntech.com/periodic/elements/s.htm#ixzz59E3ZsvQa>.