

GANDHAKA IN MEDICINE

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Article Received on
27 Nov. 2018,

Revised on 17 Dec. 2018,
Accepted on 07 Jan. 2019

DOI: 10.20959/wjpr20192-14059

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ABSTRACT

Gandhaka is being used as medicine not only in ayurveda but also in foreign countries since very long. In 1200 BC charaka mentions of Sulphur being used in many diseases. Then in eighth century sulphur was being used along with Parada for medicine preparation as well as for Dhatuvada. In western countries sulphur was being used for diseases like Asthama and skin diseases. Now it's uses have become clear. Now sulphur is used as antibiotic in modern medicine. Here this article is an attempt to expose the role of Sulphur, from ancient days till today. In modern medicine or in ancient medicine the purpose of using sulphur has not changed. Its properties are proving since long that how efficient and important medicine it is. Modern medicine and

ayurveda too, are showing same effects in curing diseases. Recently lot of studies also show its importance as medicine as well as a nutrient. From its availability as sulphur powder to organic sulphur methylsulfonylmethane, in every form it is essential to human being.

Sulphur in Ayurveda

Gandhaka – It is one of the important mineral. Tends first under the group of the Uparasas, mentioned in the Rasashastra. In Indian ayurvedic medicine, Gandhaka is being used from 1200 BC. But in the 8th century as the Rasashastra was at its peak level gandhaka was used in greater extent in dehavada as well as in lohavada. Gandhaka is obtained from its ores from the

nature. This is in ashodhita [impure] form, & it is contraindicated for internal use. So Gandhaka which is purified by the proper processes of purifications mentioned in granthas, is having properties such as "Atirasayana Garavishara, Kshudra kushth nashaka, Kasa-swasa nashak, Dadru nashaka, Aama nashaka, Jatharagni vardhak (diptah), Sar, Rasayana, Pachak etc. Gandhaka assists in assimilating Parad into human body.

Sources

- 1) Jangama – Egg, Milk etc.
- 2) Udbhija – Garlic, Carrot, Onion, Mustard seeds Neem leaves etc.
- 3) Parthiva Padhartha – Suvarna makshika, Hingul, Haratal, Manahshil etc.

Synonyms

Kusthaghna, Kitaghna, Pamari, Gandhapashan, Atigandha, Shulbari etc.^[1] Gandhaka synonyms are classified in different headings such as Sentimental or Imotive (Bhavanatmaka), Comparative (Upamatmaka), as per its Nature (Swarupatmaka), as per its Functions (Karmatmaka), and as per its Characteristics (Gunatmaka).^[1]

Gouribijam means Ovum of Parvati.

Balivasa is one of the Upamatmaka synonym. It means Gandhaka is having enough potency so it is called as Bali. It is not decaying, kills bacterias and Gandhaka itself is capable of giving strength and maintaining it in a person.

As per its Nature it is called as Vaigandha (not having any specific smell), Gandhaka (It smells when broken), Atigandha (If liquefied, smell increases), Kruragandha (Smells bad when burnt), Putigandha (It smells very bad when it excreted through excretions such as sweat, urine & excreta) etc.

According to functions Gandhaka is called Dhaturvairi (enemy of Dhatu), Dhatuha meaning, it destroys dhatus (Metals, specially Tamra).

As per its characteristics Pamari, Kusthaghna, Krumighna etc. are synonyms which mean it is a remedy for skin diseases.

Shodhana of Gandhaka

Ashuddha Gandhaka liquefies in equal quantity of goghrit on slow flame. Then pour in the godugdha through thin cloth. The same procedure repeated three times removes the physical impurities. They remain on the cloth. And its toxic contents get dissolved in the milk. And thus obtained Gandhaka is called as shodhita gandhaka.^[2]

Characteristics of the Shodhita Gandhaka

Garavishara, Kshudra kushth nashaka, Kasa-swasa nashak, Dadru nashaka, manasik evam sharirik roga nashaka, Aama nashaka, Jatharagni vardhaka, Rasayana, Sara, vikrut evam ashudha parad & naag sevan vikar nashak.^[3]

Gandhaka along with Kantakari Kashaya gives relief in Swasa and Kasa roga. With pakwa Kadali phala it cures twagroga (Skin diseases). Gandhaka along with Chitrakamula Kwath gives relief in Durbalata (weakness). Along with Coconut oil as external application it cures Pama. In this way Gandhaka along with different anupanas cures different diseases. Gandhaka also plays main role for stabilizing Parada in herbomineral preparations in Rasashastra.^[4]

Introduction of Gandhaka

First, sulfur is an element of the earth. This element is essential to life and is widely used in biochemical processes. In metabolic reactions, sulfur compounds serve as both, fuels and respiratory (oxygen-replacing) material for simple organisms. Sulphur is the eighth most prevalent element in the human body. The primary placement of sulfur in the human body is in the sulfur-containing amino acids: methionine, cysteine, homocysteine (and related cystine, homocystine), and taurine. Sulfur is an important part of many enzymes and in antioxidant molecules like glutathione and thioredoxin. Sulfur is required for the proper structure and biological activity of enzymes.

Because sulfur is directly below oxygen in the periodic table, these elements have similar electron configurations. Sulfur forms many compounds that are analogs of oxygen compounds and it has a unique action on body tissues. It decreases the pressure inside the cell. In removing fluids and toxins, sulfur affects the cell membrane. Sulfur is present in all cells and forms sulfate compounds with sodium, potassium, magnesium, and selenium. Organic sulfur, in addition to eliminating heavy metals, regenerates repairs and rebuilds all the cells in the body.^[1]

The ultimate source of sulfur is volcanic rock, mainly basalt, spewed up from the earth's core during volcanic eruptions. Sulfur in soil exists in inorganic and organic form. Plants convert sulfur in the soil into a useable form and store it. The form of sulfur taken up by plants is sulfate. Sulfur from all sources must either be in the sulfate form or be converted to the sulfate form before it can be used by plants.

Sulfur is found in all plants and living things, including all cells of the human body. Plants can synthesize organic sulfur from sulfur in the soil but humans cannot.

MSM is important organic sulfur in new dietary supplements. Sulfur is a vital element for life and current research points to methylsulfonylmethane as the most important source of organic sulfur for the body. Fortunately, organic sulfur is found naturally in all plant foods that are grown on soils although depleted soils provide less sulfur.¹ Sulfur content is at its highest when food is fresh; but it is driven out of all foods, even with moderate processing. MSM is present in most green plant food stuffs and certain algae, meats, fish, a variety of fruits, vegetables, and grains in small amounts.^[2]

Sulfur Powder

This form of the element has many applications. It is a vital component in dyes, fungicides and production of agrochemicals. It is also required in mineral extraction and waste water processing. Powdered sulfur is found in lotions and skin cream ingredients. Burned sulfur helps preserve fruits and bleach paper. The element is part of many creams, lotions and bar soaps. Many of the skin treatment ointments in the market have this ingredient.^[3]

Biological Role

Sulfur is essential to all living things. It is taken up as sulfate from the soil (or seawater) by plants and algae. It is used to make two of the essential amino acids needed to make proteins. It is also needed in some co-enzymes. Sulfur is a macronutrient for both plants and animals. A macronutrient is an element needed in relatively large amounts to insure the good health of an organism. Sulfur is used to make proteins and nucleic acids, such as DNA. It also occurs in many essential enzymes. Enzymes are chemicals that make chemical reactions occur more quickly in cells. A person who does not get enough sulfur in his or her diet develops certain health problems. These include itchy and flaking skin and improper development of hair and nails. Humans usually have no problem getting enough sulfur in their diets. Eggs and meats

are especially rich in sulfur. The average human contains 140 grams and takes in about 1 gram a day, mainly through proteins.^[4]

Health Benefits

Sulfur has elements that can eliminate acne, so it is included in their treatments. Medications for dandruff, pityriasis versicolor, rosacea and warts have this ingredient. Seborrheic dermatitis and scabies can be treated with this element. Sulfur is effective because of its keratolytic, antibacterial and anti-fungal properties. Combination of alcohol and sulfur can be used to treat acne and other skin disorders.

Solutions with sulfur can be used to accelerate the healing of wounds. In ancient Greece it was used to cure wounds. Sulfur can be used to treat hemorrhoids, arthritis and homeopathy. The cleansing power of sulfur has been known for many centuries. At one time, ancient physicians burned sulfur in a house to cleanse it of impurities. Creams made with sulfur were used to treat infections and diseases. In fact, sulfur is still used to treat certain medical problems.

Sulfur and the Human Body

One of the most important uses of sulfur relates to the human body. It is not native to the body, but it is required. The element is available in food and dietary supplementation. Sulfur is integral to the human body. The element comprises 0.25% of the body. It is integral not just for humans but all living cells. With sufficient amounts, various disorders can be prevented.^[3]

Action of Sulphur

External

Sulphur itself has no action on the skin, but some of it is converted into hydrogen sulphide, and that is a mild vascular stimulant, causing slight dilatation of the vessels, and in some cases, eczema. It kills the *Sarcoptes scabiei*, and is therefore a parasiticide. When applied to raw surfaces it is converted into sulphurous and sulphuric acids, and is therefore a severe irritant.

Internal

Alimentary canal. - It has no effect on the stomach, and most that is taken is passed out in the faeces unaltered., In the intestine, a certain amount is converted into hydrogen sulphide and

other sulphides. These cause a mild laxative effect, increasing the secretion of intestinal juice, and slightly stimulating the muscular coat, producing soft semi-liquid stools, sometimes accompanied by flatus of hydrogen sulphide, which, if in sufficient quantity, makes sulphur an undesirable laxative.

Remote effects

Sulphur is absorbed as sulphides and hydrogen sulphide, which is a powerful poison, decomposing the blood, and thus producing symptoms of asphyxia. It also paralyzes the whole nervous and muscular systems, but sulphur is never given to man in sufficient doses to produce any remote effects. Patients taking sulphur get rid of some minute portion of it as hydrogen sulphide through the kidneys, the milk, the lungs and skin. The breath occasionally smells of it, and silver ornaments next to the skin may be discolored.

Sulphur has been administered internally for all sorts of skin diseases, generally without any good result, but occasionally chronic eczema associated with much itching appears to be benefited by it, so that the sulphur tablet is a suitable laxative for these cases. Sulphur has been also given for bronchitis, for chronic rheumatism, and rheumatic myalgia, but it is very doubtful whether in these diseases there is much relief from this treatment.^[5]

CONCLUSION

The universally accepted element Sulphur is an important uparasa in Rasashastra. In modern medicine it is used as sulpha drug as an antibiotic and in the ointments for external applications in skin diseases. In supplementary form required for body, sulphur is an element. It is also having versatile effects on body. This helps body to prevent diseases as well as maintains the proper functions of the human body. The same things we found in the ayurveda regarding the sulphur. Its functions are given in very brief words. We find much similarity in the uses of Gandhak in ayurvedic and allopaty medicines.

Shodhita Gandhaka along with different anupanas and the Gandhaka rasayana are few examples having same effects as mentioned in modern medicine. It is important because in ayurveda the sulphur powder is used after going through the process of purification. This removes its physical impurities and reduces its toxic material from sulphur. And we observe that the effects of purified Gandhaka in Ayurved and sulphuric substances in allopaty are comparable.

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