

ROLE OF GEMS IN INDIAN MEDICINE

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ABSTRACT: *This paper is the first attempt in introducing the medicinal importance of gems as found in the Sanskrit text 'Rasaratnasamuccaya', which has been rendered an English translation here. The modern physicians and gemologists will find this study quite useful in continuing research and, thus, develop a new field of gem medicine.*

INTRODUCTION

Many precious tones have been employed by Indian Vaidyas since time immemorial in the preparation of medicines under the title "Ratnakalpas". Many texts of Indian medicine describe the qualities and characteristics of various gems employed in "Ayurveda". Right from "Caraka Samhita" of about Ist Century B.C. to the time of "Rasajalanidhi" of 20th Century A.D. numerous texts have described gem medicines. Of all of them pride of place is given to the text "Rasaratnasamuccaya" by Vagbhatacarya (9th Century A.D). This text is a monumental work systematically describing the various minerals employed in Indian medicines under the heads of Maharasas, Uparasas, Sadharanarasas and

Gems. One chapter, No.4 of the text, has been devoted by Vagbhatacarya in describing the gems, their qualities in Indian medicine. ¹Murthy S.R.N. (1979) has described the salient points of this chapter.

It is intended to present in this paper, English translation of 84 Sanskrit verses as per the edition of 'Rasaratnasamuccaya', edited and translated into Hindi by ²Dharmananda Sharma, 1962. It is hoped, that this would benefit the modern mineralogists and physicians to appreciate and continue research on the lines of ancient Indian Vaidyas in the preparation of 'Ratnakalpas'.

Chapter:4

GEMS

Crystals

RRS. 4/1. It is to be understood that crystals are also used in the fixation of mercury.

RRS.4/2-4 **Nomenclature of the crystals**

Vaikranta (?), Suryakanta (sunstone), shekara (diamond), mouktikam (pearls), chandrakanta (moonstone), rajavarta (?) and garudodgara (emerald) are the seven crystals to be known. Also, pushyara (topaz), gomeda (hessonite/zircon?), padmaraga (ruby), pravala (coral), vaidurya (chrysoberyl ?), neela (sapphire) are

crystals. These are to be obtained for fixing mercury.

RRS.5 Important crystals

Ruby, sapphire, emerald, topaz and diamond are considered to be five important gems.

RRS.6 The nine planetary gems

Ruby, pearl, coral, emerald, topaz, diamond, sapphire, hessonite|zircon and chrytsoberyl (cat's eye) are respectively the nine gems of planets. (It is equated as follows:)

	The sun	Ruby
	Moon	Pearl
	Mars	Coral
	Mercury	
Emerald	Jupiter	Topaz
	Venus	
Diamond	Saturn	
Sapphire	Rahu	
Hessonite zircon	Kethu	
Chrytsoberyl- Cate's eye		

RRS.7 Gems to remove bad effects of planets

In order to get compatibility of the planets the corresponding gems of the planets viz., ruby, pearl, coral, emerald, topaz, sapphire, hessonite|zircon and cat's eye chrytsoberyl

should be worn for getting success.

RRS.8 Success giving gems

In the course of mercurial preparations, chemical works, parting, wearing and worshipping of gods those gems with fine qualities and of first order are to be employed for success.

RRS.9 Two kinds of ruby

Padmaraga and nilagandhi are the two kinds of ruby.

RRS.10 The characteristics of quality padmaraga

Red coloured, with the hue of lotus flower, pure, soft, with heaviness, shining and perfect, round ruby is said to be of quality.

RRS.11 The characteristics of nilgandhi

Of blue colour reflected by the waters of Ganga, externally reddish but internally blue and with the characteristics of padmaraga is the quality of nilagandhi.

RRS.12 Defective ruby

Holes, very hard, with impurities, rough, decrystalline, broken, light weight and bending are the defects in ruby.

RRS.13 The qualities of Ruby

The (ashes of) ruby (on administration) causes increase in digestion, increase in semen production, destroys diseases of phlegm and bile and T.B. Also renders protection from excesses of five fundamental elements and spirits as well as diseased generated from (excess) work.

RRS.14 The characteristics of quality pearls

That pearl which has an attraction, white, light, soft, clear as light beam, great, famed, reflects, like water, rounded is said to be quality (with these nine characteristics)

RRS.15 The qualities of pearl

Pearl is light, cold and palliative. This increases the body hue and augments sight and increases digestive capacity. This also removes poison and is a natural purgative. The pearls imparts increase in production of semen and the one produced from oceans increases digestion and removes dehydration.

RRS.16 The characteristics of low quality pearl

One should leave that pearl which has rough surface, without water, dark, red coloured, saline, half white

and without round form. Those pearls which have holes are also not good.

RRS.17 The qualities of pearl

The pearl (in the form of ashes on administration) destroys diseases of phlegm, bile and tuberculosis. It also cures cough, breathing defects and increase digestive capacity. It improves health and increases production of semen. It also cures dehydration.

RRS.18 The characteristics of quality corals

Those corals which have colour resembling the ripe bimba fruits, round board without bending, soft, without any depression etc. and big are said to be of quality.

RRS.19 Corals of inferior quality

Yellowish, light yellowish, white, hard, with pits and depressions, with cracks and cravaces, lightness are the eight defects of coral of inferior quality, and not to be used in the preparation of medicines.

RRS.20 The qualities of coral

The (ashes of) coral (on administration) destroys tuberculosis, diseases of bile, diseases of blood, cough, and is an effective hunger-

producer and increases capacity of digestion. It cures excesses of five fundamental elements and removes poison. It also cures disease of eyes.

RRS.21 The characteristics of quality emerald

The following seven characteristics make an emerald of quality. They are green in colour, heavy, soft, lustrous, grassy, with high reflection and size.

RRS.22 Emeralds of inferior quality

Light yellow, hard, blue, dark, with dark inclusions flat, bent, rough and light weight are the characteristics of inferior quality emeralds.

RRS.23 The qualities of emerald

The emerald (ashes on administration) removes fever, poisoning, breathing difficulty, typhoid, indigestion, arsha rog, anemia and shoth.

RRS.24 The characteristics of quality topaz

The quality topaz is having high specific gravity, transparent, soft, big, symmetrical, soapy, light, yellowish resembling the flower of Karnikara and lustrous.

RRS.25 The quality of interior topaz

Dull, hard, rough, smoky, asymmetrical, dark, reddish yellow, light yellowish topaz are not suitable for making medicines.

RRS.26 Diamonds

Three kinds of diamonds are known as male, female and hermaphrodite. Amongst them the male from female and the female from the hermaphrodite kinds are superior in the preparation of medicines and increasing their strength, by right cooking.

RRS.27 Qualities of Pushyaraga

The (ashes of) pushyaraga (on administration) removes poison, diseases of wind and phlegm, indigestion, dehydration, leprosy, disease of blood, increases hunger and digestion and makes the body lighter.

RRS.28 The characteristics of male diamond

That diamond which has eight facets, six angles, brilliant, emits spectral light of the waters of clouds and appears to float on water is called male diamond.

RRS.29 The characteristics of female and hermaphrodite diamonds

That diamond which is flat, rounded or elongated is female; and the one which is rounded and dark coloured angled as also slightly heavy is called the hermaphrodite.

RRS.30 Respective utility of diamond

The male, female and hermaphrodite diamonds should be worn by male, female and hermaphrodite persons. If there be any change in this order there will be no benefit. However, the male diamond can be worn by any body and be benefited as it is perfect in all qualities.

RRS.31 / 32 The kinds of diamonds based on colour

Based on the colour i.e. starting from colourless or white (red, yellow and dark) the diamonds are divided into four kinds. They are respectively good for Brahmins, kshatriyas, vaisyas and shudras. The superior coloured diamonds are beneficial to the successively remaining casters. This is the order which has been fixed by Bhairava and is true in all matters.

RRS.33 The qualities of diamonds

The diamonds (ashes on administration) increases longevity, immediate effect on improving the health, increase potency, destroys the

imbalance of tridoshas (wind, bile & phlegm), and cures all illness. Blend with mercury (detoxified) it increases the qualities of mercury; it overcomes death and is similar of ambrosia.

RRS.34 Defects of all gems

In all gems and especially in diamonds, sharpness, asymmetry, inclusions like dust particles, scratches, inclusion of water bubbles, are the five common defects. These defects which are original to the diamonds of mines and oceans are not considered as defects.

RRS.35 Purification of diamonds

Diamond is purified by heating with the juice of horse-gram or that of kodra for a period of three hours. This is certain.

RRS.36 / 37 Preparing ashes of diamonds

The diamonds smeared and dried four times by the blood of bugs and rock for thirty times in Varahaputa covered with the meat of a rodent called cucumber (which has bad smell end long nose). Then heated again and again it should be immersed in the hot juice of horsegram for a hundred times (for making ashes of diamonds). Some state that this complete

process is to be repeated in entirely for a hundred times.

RRS.38/39/40 A different process of preparing ashes

In a vessel smeared internally with the paste of redger in the hot juice of horsegram and the floor of the juice of orange diamond is to be kept and month bound. This vessel is to be heated eight times using firewood. The diamond then heated a hundred times should be dropped into purified mercury when it becomes ashes. This has been proved by experiments of the famous chemist Somasenani.

RRS.41 / 42 Another process of preparing ashes

The diamond which has been smeared with the blood of bugs and dried for seven times is melted with kasamardarsa in an iron vessel and heated for seven times. The diamond becomes ash. This method is instituted by the sage. Brahmajyoti.

RRS.43 Another process

The diamond rubbed and heated in the roots of a creeper called neelajyoti is reduced to ashes just like the work in the flame of knowledge.

RRS.44 Another process

That diamond smeared with the paste of realgar with the juice of madana fruit is heated for twenty times when it gets into ashes. This is used with other recipes.

RRS.45 Another process

By making the diamond ashes thus, a little ash is to be mixed with tankana along with realgar and equal amount of gold. This mixture heated for twenty times will be employed in the various rasa recipes.

RRS.46 The administration of diamond

The diamonds ashes with three times the purified mercury made into tablets and taken into mouth will immediately remove the looseness of tooth and fix it.

RRS.47 Ratio of ashes

The diamond ashes 30 times, gold ashes 16 times, silver ashes 8 times, purified mercury 11 times, mica ashes 4 times, ashes of auriferous pyrites 8 times, ashes of auriferous pyrites 8 times, ashes of Vaikaranta 6 times all made into a fine mixture is called Shadgunya rasa and is used to gain shadguna siddhi.

RRS.48 Two kinds of sapphire

There are two kinds of sapphire; 1) Jalanila and 2)

Indranila. Between them Indranila is superior.

gem is called Gomed (Hassonite|zircon?)

RRS.49

Their qualities

Jalanila is somewhat whitish inside and blue outside and also light in weight. Indranila is dark inside and blue outside and is heavy in weight.

RRS.54 **The characteristics of quality Gameda**

Gameda is of the colour of pure cow's urine, pure, soft, symmetrical, heavy, without foliation, soapy and lustrous.

RRS.50 **The characteristics of superior Indranila**

The Indranila is of unparalleled luster, heavy, clear, soft, massive, soapy and of high internal reflection. These are the seven qualities.

RRS.55 **The characteristics of inferior Gameda**

Lustreless, light, hard, flat, foliated, without any reflection, yellowish- white and resembling glass gameda is not beneficial.

RRS.51 **Special characteristics of Jalanila**

Jalanila is beautiful, of different colours in parts, rough, light-weight, reddish interior, flat and fine these are the seven qualities.

RRS.56 **Qualities of Gameda**

The (ashes of) Gameda (on administration) removes diseases of bile and phlegm, destroys tuberculosis and anaemic, increases digestion and causes taste and is good for skin and increases intelligence.

RRS.52 **Qualities of Nila (sapphire)**

The (ashes) of nila (sapphire) (on administration) remove diseases of breath and cough, improves potency, removes imbalance of tridosha, increases digestion, removes typhoid, V.D. and other diseases.

Extra verses:1 **Objections of preparation of ashes of gems**

It is better to purify the gems but not making them into ashes. Since they lose their power by reducing them to ashes, it is better to have them only purified.

RRS.53 **Definition of Gameda**

Because of its similarity to the colour of bile of cow, the

RRS. Verses:2 **Employment of gems**

Superior gems with all good characteristics and purified are to be employed in the

	preparation of gem recipes, and worshipping of gods.	RRS.60 61	Purification of all gems
RRS.3	Purification of gems All gems are purified by keeping them immersed in the juice of lemon or in ice water for three days and then washing them thoroughly.		Ruby is purified by the application of amla; pearl by jayanti juice; coral solutions of kshara varga; turquoise by cow's milk; topaz (pushparag) by the juice of horsegram; diamond by the juice of rice, sapphire by the juice of nili plant; gomedā by gorocana and vaidurya by triphala juice.
RRS.57	The characteristic of quality vaidurya That vaidurya (cat's eye chrysoberyl?) which is rather darkish, highly reflecting, symmetrical, pure, heavy, clear and resembling a spreading white cloth piece in sky is declared to be beneficial.	RRS.62	Preparation of ashes of gems Excepting diamond all other gems get reduced into ashes by heating eight times in the juice of lakuca mixed with the powder of realagar, orpiment and sulphur.
RRS.58	The characteristics of inferior vaidurya Dark coloured, reflecting water surface, flat, light, hard and reflecting spreading of red coloured cloth piece internally are the qualities of non beneficial vaidurya.	RRS.63 68	Liquefaction of gems Asaphoetida, five salts, three ksharas, mamsadrava, amlavetasa, navasadar, juice of kumbhiphala, jwalamukhi, dravanti, rudanti, citramulaka, snuhi, arka all ingredients taken should be made into small balls. The quality gems should be placed inside the balls and the ball is covered by bhurja leaves. This then is heated in dolayantra after again covering by cloth, for three days, by powerful fire. After removing the ball and washing it one finds in it the gem having been converted into a shining liquid which
RRS.59	The qualities of Vaidurya The (ashes of) vaidurya (on administration) remove the disease of bloodbile and increase power of senses, longevity and strength. It destroys the diseases due to imbalance of especially bile and is hunger producer and good purgative.		

can be used for strengthening the body.

RRS.69 Special method for liquefaction of pearls

The powdered pearl mixed with amlavetasa for seven days should be made into tablets. Then these tablets are placed inside the jambeera fruits and in turn placed inside the paddy mounds. After a week these tablets are taken out, heated and given out liquefy pearl.

RRS.70 Special method for liquefying diamond

The diamond placed within vajravalli and heated with amla in a pot for seven days gets liquefied.

RRS.71 Special method of liquefying vaikranta

The white vaikranta applied with amlavetasa and heated for seven days by a powerful fire gets liquefied.

RRS.72 Different process to liquefy vaikranta

Vaikranta placed in a pot containing the juice of ketaki, saindhava salt, swarnapushpi, and indragopa and heated for seven days get liquefied.

RRS.73 Another process

(The vaikranta) with lohashtaka and vajra when

heated gets liquefied. (Lohashtaka is the eight metals including gold, silver, copper, tin, lead, brass, bronze and iron). When vaikranta is heated with the ashes of above eight metals and alloys along with the ashes of diamond on a bhurja leaf in a swedana yantra, it gets liquefied.

RRS.74 Common method of liquefaction of all gems

All gems get liquefied when processed as above which is called yogaraja.

RRS.75 Characteristics of best and better rajavarta

The best rajavarta (?) is of light red and blue-tinged colour, with high specific gravity and soapy in touch. These (rajavarta crystals) which are different from the above qualities are of better quality.

RRS.76 Qualities of Rajavarta

The (ashes of) rajavarta (on administration) remove prameha, tuberculosis, V.D., anaemia, diseases of wind, and increases hunger, digestive capacity and also production of semen.

RRS.77 Purification of rajavarta and other gems

The rajavarta and other gems are purified by heating two or three times in the solution of

lemon along with cow's urine and yavakshara.

RRS.78 Purification of rajavarta

Rjavarta is to be purified employing the juice of shireesh flower.

RRS.79 Preparation of the ashes of rajavarta

Mixing of an equal proportion of the powdered pure rajavarta and sulphur and heating for seven times after treating with lemon juice, rajavarta becomes ashes.

RRS.80|81 Extraction of the essence

The purified powder of rajavarta mixed with realagar and cow's ghee is to be heated in an iron vessel in buffalos milk. Then (the dried mixture is to be tabletted with pancagavya (cow's milk, urine, dung, ghee and curd). Then these tablets heated in the fire of khadira wood will extract the essence of rajavarta.

RRS.82 Method of preservation of liquefied gems over long periods

The liquefied gems should be placed in the medium of kusumbha oil when they can be preserved for long time. Then they can be used whenever required.

RRS.83 Results of wearing the gems

By wearing the above said gems the ill effects of the grahas (planets, satellites and the stars) like the sun can be averted. One obtains longevity and health. One gets luck and capacity to win the heart of others. By wearing them one gets wealth, and enthusiasm in work, and becomes daring. One also gets freed from the influences of unseen bad forces like that of devils etc. One also gets relieved of unfortunate happenings and ill luck. It is declared so.

RRS.84 Purification and extraction of Gairika (Red ochre)

By employing varied methods (mentioned above) the red ochre is purified. It will yield its essence of light yellowish and red colour.

Thus ends the chapter number four entitled the purification etc. of gems in the text Rasaratnasamuccaya of Vagbhatacarya, the son of Simhagupta the learned.

Comments by the translator

Vagbhatacarya in his monumental text Rasaratnasamuccaya has dealt with gems in the chapter number four. He has dealt with the panchamaharatnas which include diamond, ruby, sapphire, emerald and yellow sapphire (Topaz). First he had listed out the following 13 gems:-

Vaikranta
Suryakanta

Pushyaraga
Gomeda

Mouktika	Pravala
Chandrakanta	Vaidurya and
Rajavarta and	Neela
Garudodgara	

He then described their characteristics and their importance in medicine. He has described them in the order padmaraga, mouktika, pravala, tarkshya, vajra, nila, gomeda, vaidurya, vaikranta, rajavarta and gairika.

Description of suryakanta and chandrakanta has been left out and the description of tarkshya and gairika is given instead. The reason is not known for this deviation. Also the section of purification, reducing the several gems into ashes and extraction of their essence has been given individually and collectively at some intervals. This suggests that gemology was yet not understood properly during the time of Vagbhata. He has tried to state their understanding in clear terms.

The English rendering of certain Sanskrit terms of nomenclatures of gems is beset with difficulties. For e.g. the mineral deciphered by vaikranta is uncertain. The ayurvedic schools differ in their opinion and as many as six minerals are included under this head as quartz, feldspar, fluorspar, manganese ore, tourmaline and kimberlite dust (vajrabhumi-raj). Similar controversy exists about gomeda as some state it hessonite garnet and others say it is zircon. In the first list however, neela and emerald of the navaratnas have been left out, though they are equated against the name of certain planets. Perhaps the list of nine ratnas became important on understanding their ayurvedic qualities.

Tarkshya, marakata, garutmata etc. cannot be the same mineral. Tarkashya is possibly turauoise; marakata is perhaps the emerald

variety of beryl and garutmata may be jade or lizardite if its quality as remover of poison is considered – for lizardite removes the crippling disease of fluorosis. While nila and padmaraga belong to the same family of minerals called corundum with different colours, its not clearly known what is meant by rajavarta. Some texts (Ratna Pradipa by Gowrishankar Kapur, Goyal and Co., Delhi, 1974) mention the mineral lapis lazuli against this terminology. Chandrakanta and suryakanta also belong to the same group of minerals called felspars. The former are the varieties of basic plagioclase, called oligoclase feldspar. In the absence of standardization these gem minerals in terms of modern mineralogy it becomes difficult to exactly identify or name them.

Further, the ayurvedic claim of purification, reduction into ashes and extraction of their liquid and essence etc. need be thoroughly investigated. This field of study opens up a vast field of research in the science of mineral chemistry (Rasasastra).

There are numerous texts in later periods which have given the qualities, characteristics, processes of purification and reduction into ashes and liquefaction and extracting their essence etc. Most of them, if not all, have followed the monumental work of Vagbhata. An in depth study of these texts and detailing the various processes of preparing medicinal recipes out of them mentioned in those texts is a matter of serious research. This will call for multidisciplinary research project involving chemists, mineralogists and ayurvedic and allopathic doctors to examine the issue and take their advantage if they are worthy.

CONCLUSIONS

It is concluded that there are many controversies arising out of the identification

and standardization of gemstones with respect to their nomenclature in Sanskrit language. Also these appear to be absolutely a new field of research open for

modern medicines to delve deep in to the subject and take advantage of the 'Ratnakalpas'.

REFERENCES

1. Murthy, S.R.N.; Vagbhata on medicinal uses of gems. Ind. Jour. Hist. Sci. Vol. 14, No.2, Page: 134 – 138 (1979).
2. Dharmananda Sharma: Rasaratnasamuccaya of Vagbhatacarya, Hindi translation, Motilal Banarasidas, Varanasi – (1962).