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AN OVER-VIEW OF CONTROVERSIAL DRUGS IN RASA SHASTRA

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ABSTRACT

Introduction: Alchemy is the subject matter of Rasa Shastra, a branch of science concerned with its study. This Science included a variety of formulations which are made out of different minerals, metals, and herbo-mineral combinations. Maharasa, Uparasa, Sadharana rasa, Ratnas, Uparatnas etc are the different class of Rasa Dravya's. It is important to emphasize that the formulations mentioned in this Science are capable of proving their effectiveness in very short period of time, along with a good result. As far as the identification of drugs concerned, Rasa Shastra presents a number of controversial drugs. A 'controversy' is a combination of 'confusion 'and 'unauthenticated', 'unjustified' or doubtful version of subjects. Objectives: An in-depth review of the topic "Controversial drugs in Rasa Shastra". **Materials and Methods:** Vaikrant, Chapala from Maharasa group; Rasanjana, Puspanjana and Kankustha from Uparasa group and Girisindura from Sadharana rasa are included in controversial drugs list. **Conclusion:** It is still not possible to properly utilize certain drugs because of their unavailability, scarcity, misinterpretation of drugs with different synonyms listed in various Rasa granthas, and lack of research in drug establishments, allowing these drugs to be grouped under the controversial category. There will always be a question about the legitimacy of science as long as Controversy persists. In this paper different controversial drugs in Rasa Shastra have been discussed.

KEYWORDS: Ayurveda, Rasa Shastra, Controversial drugs.

1. INTRODUCTION

Ayurveda as a holistic science, mainly prioritize on maintaining the equilibrium of physical, psychological, spiritual and social aspects of health. The science makes use of naturally occurring products from animals, herbs, metals and minerals in a well-organized manner for the attainment of health. *Rasa Shastra* is a branch of science where we get an illustration regarding the usage of metals and minerals for different formulations. The usages of metals and minerals in the form of medicine, both internal as well as external purposes are the unique identity of Ayurvedic Science. In *Rasa Shastra dravyas* are categorised to different groups like *Maharasa, Uparasa, Sadharana rasa* etc. Each group carries some controversial drugs regarding their identification, origin, synonyms, types, vernacular names, therapeutical properties, structure etc. The word controversy refers to confusion, and unauthenticated or unjustified version of subjects. Here are some controversial drugs which are grouped under *Maharasa, Uparasa, Sadharan rasa* like *Vaikranta, Chapala, Pusphanjana, Rasanjana, Kankustha, Girisindura* etc.

1.1. VAIKRANTA

Vaikranta firstly mentioned it by name, *Vaikranthaka dhathu* in *Kautalya Arthashastra* chapter 33, belonging to the 4th century BC[1], later the description related to this mineral can be found from *Rasa Hrdaya Tantra* onwards in all texts of *Rasa Shastra* in the group of *Maharasa* or *Uparatna varga* or both. It became controversial because, as per modern view four minerals can be identified as *Vaikranta*. They are tourmaline, fluorspar, feldspar and rock crystal.[2]

Tourmaline belongs to the prismatic crystals three sided hexagonal and trigonal prisms. It is a crystal borosilicate mineral compounded with elements such as aluminium, iron, magnesium, sodium, lithium, or potassium. Chemically it is identified as Mg,Mn,Fe,Ca,Na,K,Li,H,F,Al3,B2,SiO4,O2. Tourmalines are available in different colours, iron rich tourmalines are black to bluish to deep brown, while magnesium rich varieties are brown to yellow and lithium rich tourmalines possess any color- blue, green, yellow, red, pink etc, Rarely it is colourless.[3] Tourmaline resembles the description of *Vaikranta* in many aspects like hardness (which is nearer to *vajra*) and many colour shades of tourmaline are available as said in classical text of *Rasa Shastra*.

Fluorspar, also called Fluorite or Calcium fluorite (CaF2). Hardness of fluorspar is '4.0', and it is too less when it is compared with hardness of *Vajra*. It is available in different colours such as white, green, purple, blue, yellow or colourless.[4]

Rock Crystal, it is the purest, most transparent variety of quartz. The Hardness of Rock Crystal is '7', which is similar to Tourmaline/vaikarant. It is generally available in colors like clear, pink, yellow, red, green, purple, and black, with chemical composition SiO2.[5]

According to Ayurveda; *Vaikranta* is claimed to be black oxide of manganese, which is termed as *'Krishnapashan'* according to Dr Vamana Ganesh Desai.[6] As per '*Rasa Hridaya Tantra*' 10th chapter the *Satva* of *Vaikranta* should resembles to that of *Loha*, and in its commentary, this *Vaikranta* was mentioned as *Rasavaikranta* which probably suggests that this *Vaikranta* is different from that of the *Vaikranta* which is included under *Uparatna* group. The *Satva* of *Vaikranta* will be similar to cast iron and it looks like a form of manganese.[7] Hence *Vaikranta* included under *Maharasa* group may contain manganese as *Satva*. As per *Kautilya Artha Sastra* chapter 33, *Vaikranta* is mentioned under the category of metals.[8] Yadavaji Trikamji in his discussion regarding *Vaikranta* says that; the term *Vajra* used in this context is for *Tikshna lauha*, which is hard like *Vajra* and in its absence one can use *Vaikranta*.[9]

1.2. CHAPALA

Chapala forms the 7th mineral drug of *Maharasa* group and it is one of the controversial drug in the field. Since this mineral melts very quickly like *Vanga*, it is named *Chapala*.[10] It possesses low melting point of 217℃, which is almost similar to *Vanga*, that is 232℃.[11] Chemically *Chapala* can be understood as Selenium with chemical formula 'Se', but in other text books of *Rasa Shastra* compares *Chapala* with Bismuth ore. So, it remains as a controversial itself. Now a days *Chapala* is not in common use, because of its controversial status.

Table 1.1[12]

CHARACTERISTIC FEATURE	CHAPALA	BISMUTH (Acc to RRS Tikka)	SELENIUM (Acc to RT Tikka)
Colour	*Gaura, Sveta, Aruna, Krishna*	Silvery metal with a bright, shiny surface and a yellowish or pinkish tinge	Steel grey, dark red crystals
Appearance	Looks like *Sphatika*, having	Trigonal crystal	Hexagonal crystal

	six edges, soothing		
Specific gravity	*Guru*	9	4
Melting Point	Melts like V*anga* that is 232℃	271℃	217℃

As per Rasa Tarangini 'Selenium' is considered as *Chapala*. As per the opinions of Acharaya Yadavji and Dr Vaman Ganesh Desai, *Chapala* can be taken as "Bismuth" due to following reasons;[13]

Bismuth melts quickly as like *Vanga*

Having six edges.

It is available along with sulphur containing minerals like *Swarnamakshik*.

1.3. PUSHPANJANA

Anjana occupies 7th place in *Uparasa* group. Among the types of *Anjana*, *Pushpanjana* came across with different controversies. According to *Rasaratnasamucchaya Pushpanjana* has white colour.[14] In the commentary of *Rasaratnasamucchaya*, prof D.A Kulkarni has mentioned the controversy related to the acceptability of *Pushpanjana* as follows;[14]

As its name suggest, *Pushpa* means flower; so, it may be derived from the *Pushpa* (flower) of specific plants which is used for *Anjana karma.*[14] It may be a kind of 'honey, derived from a flower available in Kashmir, which is called "*Kashmiri madhu*", which can also be used as *Anjana* for treating some eye diseases.[14] It can also made out from *Pushpakasisa*, as it is also indicated in eye disorders and the colour and properties of *Pushpskasisa* are same.[14] The purified Alum (*Tuvari*) can also be considered as *Pushpanjana* because of its white colour and usefulness in eyes.[14] As per *Ayurveda Prakasha* '*Rithikitta*' is considered as *Pushpanjana*. '*Rithi*' is '*Pittala*'(brass)[15], it is an alloy of copper and Zinc. Some compounds of copper like CuSO4, and Zinc are used in eye diseases. Many Scholars claimed that 'Zinc oxide' "ZnO" is considered as *Pushpanjana* when *Pittala* is melted, the *Yasada* (Zn) present in this reacts with atmospheric oxygen. Because of which it converts into white powder. This powder is called as *Puspanjana* and is identified chemically as zinc oxide. *Yasada* when roasted in iron pan or earthen vessel in open air, it turns in to a puffy substance (*yasadpushp*), which is white in colour and is considered as *Pushpanjana.*[16]

1.4. RASANJANA

Rasanjana is mentioned as yellow oxide of mercury by Aacharya D.A Kulkarni in his commentary on *Rasaratnasamucchaya*. And he also mentioned in his commentary that if

Rasanjana is prepared out of the extract of *Daruharidra* alone means it should come under herbal product, but in *Rasa Shastra* how the herbal product not containing mercury, or any other metal could be considered in the group of *Uparasa.* Hence, *Rasanjana* will be a drug in which mercury must be present in some or other form[17] *Rasanjana* included in *Anjanadi gana* by Acharya Susrutha in 38th chapter. Dalhana while commenting on *Rasanjana* referred by Susrutha (Su.su38) says that, the *Rasanjana* prepared by *Daruharidra kwatha* is artificial.[18] *Rasanjan* is of two kinds-one is *Srotanjana* which resembles *Krishnapashanakriti dravyam* and another is prepared by *Daruharidra kwatha* is artificial. Dr Vamana Ganesh Desai considers yellow colour *Bhasma* of *Parad* as *Rasanjana*.[19]

1.5. KANKUSTHA

It is the 8th mineral drug in *Uparasa* group. As per *Rasa Vaghbhata Kankusta* is the faecal matter of a new born elephant or the umbilical cord of a new born horse, and is considered as *Rechana* (purgative) in nature. *Kankusta* is said to be good for both *Rasa karma* and *Rasayana karma* (rejuvenation). Some scholars suggest that *Mruddhara sringa* (lead oxide) is considered as *Kankusta.* As per Dalhana latex of *Kanchanakshiri niryasa* or *Swarnakshiri niryasa* is considered as *Kankusta.*[20] The resin collected from the bark of Mysore Gambose tree is also considered as *Kankusta*.[21]

Table 1.2[22]

Author/Reference	Kankustha Drug
Acharya Dalhana	*Swarnakshiri* drug (Argemona Mexicana)
Rasarnava	A drug with lustre and color similar to V*idruma*
Rasa Vaghbhata	A herbal drug grown on the peak of Himalayan mountains.
Other opinion quoted in Rasaratnasamucchaya	The blackish yellow faecal matter of new born elephant. Umbilical cord of newborn horse which is whitish yellow in colour.
Acharya Baluki	An ore of V*anga*
Acharya Yadavji Trikamji	Plant *Revandachini* (Rubarb)
Vaidya Pandit Saligrama Shastry	*Mruddhara Shrunga*
D.A Kulkarni	Exudates of Gamboze tree

1.6. GIRISINDURA

As per *Rasaratnasamucchaya*, *Girisindhura* is a compound of *Rasa* or *Rasa* itself, which is found in small quantity between the big mountains which appears as red and dry. Montroydite, the ore mineral of mercury closely resembles with it and contains a few particles of free mercury and is red in colour.[23] As per *Rasatarangini*, *Girisindhura* is a fine,

slimy, heavy, red, smooth, clear powder. As per *Rasatarangini* and *Rasamrita*, *Girisindhura* is considered as the compound of lead and can be prepared artificially from lead. In the market, *Sindura* available is prepared by lead peroxide. When litharge heated up to 450℃ in presence of oxygen and will form red colour over external surface, this is *Nagasindur.*[24]

2. DISCUSSION

Controversy about a drug will lead to the improper use or no use of that drug and also paves the way for substitution, adulteration etc. When we go through *Vaikranta*, controversy persists in the aspect of its identification as tourmaline, fluorspar, rock crystal etc. Comparing with the features described in our classics *Vaikranta* possess more similar characteristic features with tourmaline which is coming under *Maharasa* group. In case of *Chapala*, it is accepted both as selenium and bismuth ore by different authors, but it can be concluded under bismuth ore because as bismuth having the property of melting very quickly as like *Chapala*. Still there is no clarification coming regarding the controversial aspect of *Chapala*. When we go through *Pushpanjana*, we found that its origin is still questionable. Many scholars opine that, *Pushpakasisa* itself can be chosen as *Pushpanjana*, somewhere it is described as *Rithikitta*, some considered it's a kind of honey derived from certain flowers etc. In modern point of view, it is considered as Zinc oxide which possess orange yellow to deep red or brown colour. *Rasanjana*, which is considered as yellow oxide of mercury but at the same time it is considered to be prepared from *Daruharidra kwatha* also. *Kankustha* as a drug possess *Atirechana karma* (highly purgative), and it is also defined in different ways according to different authors. It is most accepted as resin collected from the bark of Mysore gambose tree (Garcinia morella). When we come across *Girisindur*, it is considered as a compound of mercury according to *Rasaratnasamucchaya*, whereas as per *Rasatarangini* and *Rasamrita* it is considered as compound of lead.

3. CONCLUSION

Controversy is the unexplored aspects of science. It arises mainly because of various synonyms by which that drug known, different definitions by Acharyas in various *Rasa granthas*, lack of research work in this field etc. So, there is need of proper research works to be rectify these controversies to get a world-wide acceptance for *Rasa dravyas*.

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