

Rasa Shastra-Compliant Transformation Of Copper Into A Medicinal Mineral Compound**Dr.Ravneet Kaur Chahal****Ph.d. Scholar****Desh Bhagat University****Mandi Gobindgarh****Punjab****(Received:16July2023/Revised:30July2023/Accepted:5August2023/Published:13August2023)****Abstract**

The word Rasashastra in a real sense implies the "Study of Mercury". It is a specific part of Ayurveda managing materials which are known as 'Rasa dravyaas'. The items managed under this discipline are a significant part of Ayurvedic therapeutics. Rasa Shastra is a particular part of Ayurveda which developed from first to fifth 100 years in India. The branch manages therapeutics of substances of plant, animal and mineral beginning, which are moderate to seriously poisonous in crude structure. Notwithstanding, there are different procedures to change them into non-poisonous remedial structure. A perplexing compound was at first ready in mid seventies utilizing Copper, Mercury and Sulfur as base materials that were handled with devdali (*Luffa echinata* Roxb.), aprajita (*Clitoria ternatea* L.) and new lemon juice. The compound was seen as clinically powerful in treating pancreatic problems. The subjects shrouded in the survey are: verifiable foundation of the evolvement of Rasashastra as a particular branch during various time spans; various parts of grouping 'Rasa dravyaas'; handling of metal and mineral items with a note on the techniques utilized during various time spans; data about strategies for pre and post planning systems for various types of 'Rasa dravyaas'; significance of mercury in Ayurveda, its handling techniques and various arrangements alongside helpful signs. What's more endeavor has been made to give fundamental data on the metal and mineral based arrangements referenced in Ayurvedic Model of India; late improvement in the field of Rasashastra and future prerequisites for the appropriate advancement of the discipline. The primary center is to acquaint the perusers, from non-ayurvedic foundation, on various parts of this particular discipline. Standard Employable Methodology for the readiness of the expressed definition was created. The consequences of the substance examination showed development of

new mineral pinnacles. The end result was without any free metals. The review shows that the conventional strategies depicted in Rasa Shastra have potential to change over metals into mineral structures that are remedially powerful and safe. The science should be additionally investigated and created.

Keywords: Rasa Shastra, Ayurveda, Pancreatitis, Pancreatic disorders

Introduction To 'Rasashastra'

Pharmacopeia of 'Ayurveda' contains drugs got from spices as well as from minerals, metals and creature items. As per the standards of 'Ayurveda', there is certainly not a solitary substance in the Universe which doesn't can possibly be utilized as a medication, if it is utilized reasonably by the doctor where it is required. In this reference Caraka-one of the preeminent figures of Ayurveda says "Anenopadeshena Na Anaushadhibhootam Jagati Kincit dravyam upalabhyate. The word Rasashastra in a real sense implies the "Study of Mercury". Nonetheless, it is a specific part of Ayurveda managing materials which are known as 'Rasa dravyaas'. [4] They have the accompanying three trademark credits: moment viability, necessity of tiny portions and broad restorative utility independent of sacred variety. The accompanying Sloka (refrains regularly in two lines) portrays the above given ascribes of rasa. Vaidika period is the time of four Vedas - 'Rigveda', 'Yajurveda', 'Saamaveda' and 'Atharvaveda'. 'Atharvaveda', of which 'Ayurveda' frames a significant part, traces all the way back to 5000 B.C. In the Vaidika period accentuation was given on reinforcing and support of the wellbeing through administration of sound way of life. The object of this framework was to work with smooth entry of a person towards 'Moksha', a definitive salvation. The period of 'Samhitaas' is perceived by crafted by extraordinary researchers and soothsayers of 'Ayurveda' like 'Maharshi Atreya' and his followers 'Agnivesha', 'Bhela', 'Jatukarna' and so forth. These researchers albeit focused on the significance of support of wellbeing like their ancestors, additionally extended their vision to pharmacotherapeutics. The helpful properties of plants, creature items and minerals were broadly portrayed in their works. In therapeutics, accentuation was given on the utilization of restorative plants, being more recognizable and assimilable in the human body. Minerals were utilized, yet their utilization was a lot of restricted contrasted with the utilization of plants. The majority of the times the minerals were utilized in mix with plants (herbo-mineral medications) however utilization of autonomous mineral medications was likewise normal. The minerals were exposed to serious handling for providing them with a type of drug. [2]

Copper is among the couple of metals that happen in nature in local structure. Copper is a fundamental dietary mineral for human body (1.4 to 2.1 mg per kilogram body weight) that is significant for the appropriate development, improvement and support of specific body organs, similar to bone, connective tissue, cerebrum, heart[1]. Copper animates the invulnerable framework to battle diseases, to fix harmed tissues, and to advance recuperating and kills "free revolutionaries", which can make extreme harm cells.3 going against the norm, certain salts of Copper, like hydroxides, chlorides and sulfates, may make intense poisonousness people. Rasa Shastra in Ayurveda underscores on the therapeutics of metals and minerals and terms these as dhatus and updhatus. Copper (tamra) remains among seven dhatus depicted in Rasa Shastra for their helpful properties. The calcined debris of tamra, alluded to as tamra bhasma, has generally been being used for the treatment of problems depicted in traditional Ayurvedic texts, for example, pandu (frailty), udarshoola (stomach torment), jwar (fever), kushtha (skin issues), shwasa (dyspnoea). In any case, Ayurvedic texts likewise notice that Copper is a mahavish (posion) and, subsequently, unique philosophy has been depicted to change over it into first, non poisonous, and afterward helpful structure . Likewise, old style texts state different strategies for handling of tamra, of which handling utilizing parad (Mercury/rasa) is viewed as the best. Mercury, the 80th component on the intermittent table, is an exceptionally harmful weighty metal. Its poisonous impacts incorporate harm to the cerebrum, kidneys and lungs. Salts of Mercury have generally been being used to treat syphilis and as a diuretic, effective sanitizer and purgative. Various philosophies for handling of Mercury have been depicted in Ayurvedic texts. It is referenced that Mercury achieves its remedial worth when handled with Sulfur, an interaction called gandhak jarana. The cycle includes warming of gandhak in various extents with parad in explicitly planned contraption called nalika baluka yantra and prompts a condition of gandhak jeerna parad. This parad has been expressed to have supernatural remedial properties. Sulfur (gandhak) is a non-metallic component with nuclear number 16 that has since old times been being used for treating skin issues and bacterial contaminations. It is broadly utilized in homeopathic prescriptions for stomach related problems, skin and respiratory circumstances, prostate and feminine related side effects. In Ayurveda, gandhak is utilized as an alterative, purgative, diuretic and insecticide.[5]

Handling Of Metal And Mineral Items

It was seen by the previous researchers that in the event of creature and plant items, next to zero handling was expected to put them to use as a medication. Albeit scarcely any medications like cured oils, aged items, ready from plant and creature items might require minimal more mind boggling and broad cycles. Large numbers of them could be consumed in their normal structure. The minerals when contrasted with creature and plant items were not viable with human body constitution. They couldn't be consumed in their normal structure. The conviction that concentrated and elaborate handling is expected to make them fit for helpful use lead to the evolvement of refined handling systems. A particular rule of creating a medication, viable with human body, is seen in the handling of mineral substances. The mineral or metallic material is treated with plant or creature substances, viable with the body. In specific cases substances non-viable with the human body, for example, minerals like orpiment (Haitaal), Realgar (Manshila) are additionally utilized in handling. Anyway in such cases a definitive object of the handling is to create an assimilable item for the human body, without delivering hurt in remedially compelling portion.

This treatment makes the handled material viable and works with its simple osmosis. The principal snag in utilization of mineral material by the people is its non-edibility because of its hard consistency. Consequently the mineral material is overwhelmingly handled to make it actually delicate, palatable and assimilable. Aside from this, the material is likewise handled to make it innocuous to the body, as such, to make it liberated from poisonousness in restorative portions.

The restorative properties of metals like the Gold, Silver, Copper, Iron, Lead and Tin and composite Bronze (Ringer metal) are depicted by Susrutaacarya. Albeit the mineral and metallic plans are depicted in the works of art having a place with 'Samhitaa' and 'Post-samhitaa' period, the handling procedure of these materials in these periods contrasts impressively.

Tamra (Copper)

Tamra (Copper) is one more old metal known to human progress. During pre-Vedic times, the metal was essential for day-today business capabilities. Further, it is the previous known metal for the readiness of the more grounded compound metals metal and bronze of which it is a part. Charaka involves the term Arka in a couple of spots which Chakrapani explains as inseparable from Tamra.[5] As per the depictions of Rasa in Vagbhata Ref. there are two types of Tamra viz. Nepaliya and Mlechha, just the previous being OK. Tests with trademark metallic sheen

(Snigdham), delicate (Mridulam), radiant rosy in variety (Shonam), having high rigidity (Ghanaghata Ksamam), weighty (Master), and absent any trace of pollutants (Nirvikaram) are recognized as best utilized for restorative purposes.[6]

Details of 'Tamra' are valuable in many illnesses like Krimi, Sthaulya, Arsha, Ksaya, Pandu, Kusta, Swasa, Kasa, Amlapitta, Sotha, Sula, Yakrit Roga and Grahani dosha etc.[7] moreover, Charaka advocates the utilization of Tamra Patra (copper vessels) in a few drug procedures.[8] Ordinary dosages referenced for 'Tamra Bhasma' is 15 mg to 60 mg.

Results And Discussion

A] Shodhan Interaction: Substance immaculateness of crude copper wires was close to 100%, estimated by AAS. The impact of different strides of shodhan process on beginning copper metal. copper goes through a treatment on the other hand in acidic-essential medium during ordered shodhan process. Nonetheless, the current review uncovers that the vast majority of the means of shodhan process comprise of warming the forerunner Cu wires in acidic or close to nonpartisan medium followed by extinguishing. As the warming/extinguishing time is exceptionally short, the progressions happening would be bound to just surface. Because of the treatment given in the shodhan cycle, the shine of metal wires was lessened with discoloring the variety; wires ended up being fragile and broken into little pieces. Particular perception was noted during the treatment with Kanji, where the metal wires seem, by all accounts, to be cleaned and shining. Obviously, the geography/morphology of the surface would change which couldn't be seen by uncovered eyes. Such changes additionally may meaningfully affect the pace of bhasma arrangement (required number of putas) in the general cycle. A few composite developments on a superficial level become obvious. Since these composites arrangement is probably going to have an intermediates comprising of a natural utilitarian gathering from plant or in any case beginning, it is probably going to be singed in the ensuing warming cycle and structure carbon covering on copper wire pieces. These natural parts might go about as surface dynamic specialists, helping scattering of copper intermediates in fluids utilized for the shodhan cycle, and thus uncovering new surface for additional treatment.

The planning of Ayurvedic Bhasmas is an exceptionally many-sided process that requires drug handling, as referenced in the old style Ayurvedic texts too the skill in this field. The fundamental test looked by herbometallic/herbomineral detailing is wellbeing issues. Thusly, the handling of the Bhasma ought to be given prime significance, beginning from confirmation of

the crude medications until the development of the ideal item. In the current review, TB was arranged following every one of the means - Shodhana, Marana and Amritikarana. During Samanya Shodhana, Cu turnings were warmed and extinguished into different fluid media having an adjustment in their pH. The utilization of the acidic and antacid arrangement as cooling media in the extinguishing system influences the hardness of the metal . Besides in Vishesha Shodhana as well, Cu turnings were warmed in cow's pee, warming the metal will uproot molecules from their situation and the dislodged particles structure another construction. This interaction was known as allotropic stage change. It changes the hardness, strength and pliability of the metal , increments fragility, diminishes the rigidity and decreases the molecule size of Cu turnings, which will help the further handling of Bhasma.

Conclusion

Rasa Shastra that began somewhere near the first century came into appropriate presence around the eighth century. This science includes different techniques to change over metals into mineral structures. It is inordinately difficult to comprehend the mind boggling subtleties of each handling which requires numerous years to change over harmful metals into restoratively viable non-poisonous structures. In any case, there are forever been a central issue blemish on the science of the completed item and security and viability. Mercury and Copper are notable metallic components and Sulfur is a non metallic component. In the current review, these were exposed to continued crushing and warming utilizing concentrate of *Luffa echinata* Roxb. what's more, *Clitoria ternatia* L. in lemon juice . Accordingly there is adequate proof to show that mineral and metal based arrangements utilized in Ayurveda and other customary frameworks of medication has significant natural exercises. It isn't reasonable to dispose of such a significant part of Ayurvedic restorative armamentarium without taking in to thought every one of the perspectives connected with the issue. The review portrays the basics of 'maran sanskaar that implies the metal loses its metallic structure. This interest peculiarities of Rasa Shastra should be concentrated further.

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