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“A REVIEW OF VAJRA: AN ANCIENT AND PRECIOUS DRUG IN  
RASASHASTRA”

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**ABSTRACT**

*Rasashastra* - an Ancient Indian Alchemy deals with pharmaceutical procedures of drugs that helped mankind since thousands of years. ‘*Rasa*’ is indicative of ‘Mercury’ chiefly interesting area for ancient alchemists of *Rasashastra*. Along with mercury various categories of drugs are classified in *Rasashastra* viz. *Maharasa*, *Uparas*, *Dhatu*, *Ratnoparatna*, etc. *Ratna* also called as gemstone is precious stone used for medicinal purpose. Whereas ‘*Vajra*’ i.e. diamond is classified under *Ratnavarga*. ‘*Vajra*’ is stone with most brilliant quality, soft to touch, lustrous, clean looking, very hard and unbreakable found beneath the earth’s surface. ‘*Vajra*’ has excellent optical and mechanical properties, combined with efficient marketing; so is most precious and popular gemstone. Due to its lucrative appearance it is widely used in jewelry. Diamond is excellent form of carbon with superlative physical qualities, most of which originate from the strong covalent bonding between its atoms. According to *Rasashastra* classics, “*Vajra Bhasma*” is good cardio tonic and possesses all the six *rasa*.

*dhatuvarga, ratnavarga, etc.* The precious

It is the best medicine to cure impotency and many more diseases; so it is equated with Nectar (*Sudha*) in classics. *Shodana* and *Marana* of '*Vajra*' are mentioned in *Rasashastra* classics which makes it more essential to cure diseases. For any new research regarding '*Vajra*' researcher requires its literature review. This article deals with detail literary review of '*Vajra*'.

#### **KEYWORDS**

*Ayurveda, Rasashastra, Ratna, Vajra*

#### **INTRODUCTION**

The origin of '*Rasashastra*' has its roots in the '*Ayurvedic Alchemy*'. *Ayurvedic Alchemy* is an important branch of *ayurvedic* pharmacology dealing with the use of metals, minerals, gemstones and their processing. In India Alchemy was started for the preparation of a '*Potion*' of life for imparting immortality and later for the transmutation process for converting ordinary metals into gold. In later centuries, all the previous accumulated alchemical ideas were put to practical use and many preparations of mercury and other metals were evolved as helpful accessories in medicine.<sup>1</sup> Nowadays *Ayurveda* makes an extensive use of '*Rasashastra*' so, it has become the vital or inseparable component of the therapeutic process. Various herbo-metallic and herbo-mineral formulations are effectively used to treat diseases.<sup>2</sup> Drugs mentioned in *Rasashastra* are classified as *maharasa, uparasa,*

field of '*Rasashastra*' are branded as '*Ratna*'. These special stones are highly attractive and striking in comparison with other metals and minerals. '*Vajra*' i.e. Diamond is one of the *Ratna* from mineral source.<sup>3</sup> According to *Rasa-Tarangini* perfectly prepared '*VajraBhasma*' is good cardio tonic and possesses all six *rasa*. It has synergistic (*Yogavahi*) action and is one among the best rejuvenators.<sup>4</sup> Natural diamonds are formed at high temperature and pressure at depths of 150 to 250 kilometers in the Earth mantle. Carbon containing minerals provide carbon source, and the growth occurs over periods from 1 billion to 3.3 billion years.<sup>5</sup> The '*Arthashastra*' of *Kautilya* mentions diamond trade in India. Also Buddhist works dating from the 4<sup>th</sup> century BC describes the diamond as a well-known and precious stone. Diamond is derived from

Latin ‘adamas’, which is of Greek origin meaning “invincible untamed”.<sup>6</sup> In simple terms Diamond is an excellent form of carbon. Diamond has remarkable optical characteristics because of its extremely rigid lattice; it can be contaminated by very few types of impurities, such as boron and nitrogen. Combined with wide transparency, this results in the clear, colorless appearance of most natural diamonds.<sup>7</sup>

### **AIMS & OBJECTIVES**

To review ‘Vajra’ (Diamond) from available *Ayurvedic Samhitas*, various texts, Journals and modern literature

### **LITERATURE REVIEW**

Mineral stones with the ‘most brilliant qualities’ in their own category are branded as precious and are called as “*Ratna*”. Since they are precious, they lure the people towards them. ‘*Ratna*’, ‘*Mani*’ and ‘*Varapasana*’; are the synonymous words used in the classics for these precious mineral stones. Depending on the quality the gemstones are categorized into *Ratna* and *Uparatna*.<sup>8</sup> Each *Ratna* is related with one ‘*Graha*’ of the nine *Graha*’s as per classics. As it is believed that disease conditions depend on *Graha*’s and to get cured it is important to wear the *Ratna* as per *Graha Dosha*. ‘*vajra*’ is the *Ratna* related with ‘*Sukhra*’ *Graha*.<sup>9</sup>

### **TYPES OF ‘VAJRA’**

- ‘*Vajra*’ is classified in three types according to *Rasa Ratna Sammuchya* and *Ayurved Prakash* i.e., *Nara - Uttam*, *Nari - Madhyam* and *Napunsak - Adham*; *Nara* type can be useful to everyone, *Nari* type useful to female and *Napunsak* type useful to Hermaphrodite.<sup>10,11</sup>
- ‘*Vajra*’ of three types is further classified according to ‘*Jati*’ and ‘*Varna*’ by *Rasa Ratna Sammuchya* and *Ayurved Prakash* i.e., *Brahmana - Shweta Varna*, *Shatreya - Rakta Varna*, *Vaishya - Pitta Varna* and *Shudra - Krishna Varna*<sup>12,13</sup>

### **GRAHYA LAXANAS (desired characteristics)**

- According to *Ayurved Prakash* desired ‘*Vajra*’ has five characteristics viz., clean looking, very light, having eight surfaces, six angles and very sharp which can cut the glasses.<sup>14</sup>
- According to *Rasa Ratna Sammuchya* ‘*Vajra*’ having 8 edges, 8 surfaces, 6 angles, very shiny, with rainbow colors and floating over surface of water is ‘*Nara Vajra*’; This types of ‘*Vajra*’ if is flat and round it is ‘*Nari Vajra*’ and if this round ‘*Vajra*’ has no edges, angles and is heavy it is ‘*Napunsak Vajra*’.<sup>15</sup>

### **AGRAHYA LAXANAS (undesired characteristics)**

- According to *Rasa Tarangini* the ‘Vajra’ which is round bodied without any angles and surfaces, which is unclean, bluish in color, with dull radiance, broken, having rough outer body (with impressions like that of crow’s claws) and the one with many lines it is considered to be *agrahya*.<sup>16</sup>
- According to *Ayurved Prakash* the ‘Vajra’ which is having rough outer body (with impressions like that of crow’s claws), dull radiance, many lines it, round bodied without edges, unclean, with dots, irregular in shape, broken, bluish in color, with flat surface and dull is considered to be *agrahya*.<sup>17</sup>

#### **‘VAJRA’ DOSHA**

- ‘Bindu’, ‘Kakapad’, ‘Yava’, ‘Mala’ and ‘Rekha’ are the five doshas of ‘Vajra’ according to *Ayurved Prakash*.<sup>18</sup>
- ‘Grasa’, ‘Trasa’, ‘Bindu’, ‘Rekha’ and ‘Jalagarbhata’ are the five doshas of *Ratna* according to *Rasa Ratna Sammucchya*.<sup>19</sup>

#### **PERFECTNESS TEST OF ‘VAJRA’**

- When the ‘Diamond’ is rubbed hard on to a rough surface, it remains completely unaffected. Instead with its sharp edges, it easily cuts the surface on which it is rubbed is perfect ‘Diamond’ according to *Rasa Tarangini*.<sup>20</sup>

- When the ‘Diamond’ is rubbed hard on to a rough surface, it remains completely unaffected. Instead with its sharp edges, it easily cuts the surface on which it is rubbed and breaks only when rubbed with other Diamond; it is perfect ‘Diamond’ according to *Ayurved Prakash*.<sup>21</sup>

#### **VERNACULAR NAMES**

Table 1.1 representing vernacular names of ‘Vajra’.<sup>22</sup>

▪ Sanskrit	<i>Vajra</i>
▪ Bengali	<i>Hira</i>
▪ Hindi	<i>Hira</i>
▪ Marathi	<i>Hira</i>
▪ Gujarati	<i>Hira</i>
▪ Arabi	Almas
▪ English	Diamond

#### **SYNONYMS**

- According to *Rasa Tarangini* *Hiraka*, *Hira*, *Abheda*, *Bhidura*, *Kulisa*, *Vijraka*, *Vajra*, *Bhargavapriya* are the synonyms of ‘Vajra’.<sup>23</sup>
- According to *Ayurved Prakash* *Vajra*, *Chandra*, *Manivar* are the synonyms of ‘Vajra’.<sup>24</sup>

#### **IDENTIFICATION**

Table 1.2 representing Identification characteristics of ‘Vajra’.<sup>25</sup>

Formula :	C
As a commodity :	Diamond
Color :	colorless, yellowish to

	yellow, brown, black, blue, green or red, pink, champagne-tan, cognac brown, lilac (very rare)
1. Luster :	Adamantine, Greasy
2. Transparency :	Transparent, Translucent, Opaque
3. Hardness :	10 on mohs scale
4. Specific gravity :	3.5 – 3.53
5. Crystal system :	Isometric
6. Crystal class :	Hexoctahedral
7. Type :	Isotropic
8. Polymorphism of :	Chaoite, Graphite, Lonsdaleite
9. Streak :	None
10. Tenacity :	Brittle
11. Cleavage :	Perfect, Perfect Octahedral {111}
12. Fracture :	Irregular / Uneven
13. Density :	3.5 – 3.53 g/cm <sup>3</sup> (measured) 3.515 g/cm <sup>3</sup> (calculated)
14. RI values :	n <sub>α</sub> = 2.435
15. Birefringence :	Isotropic minerals have no birefringence
16. Surface relief :	Moderate
17. Dispersion :	Strong

18. Melting point :	Pressure dependent
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**SOURCES OF ORIGIN**

- Natural diamonds formed deep in Earth mantle
- Synthetically diamonds produced in lab

**CHARACTERISTICS OF ‘VAJRA’**

- **Luster:** The luster of Diamond is excellent. It is the most important characteristics, because it exhibits great fire and brilliance, which gives it a shiny, freshly polished look. Diamonds have two types of luster viz. Adamantine and Greasy. Rough diamonds exhibit a greasy luster, but proper cutting give them a powerful adamantine luster.<sup>27</sup>
- **Shape:** Diamonds are found as rough stones; they are cut and polished. Diamonds are cut into variety of shapes that are generally designed to accentuate the features. Diamonds which are not cut into a round brilliant shape are known as “fancy cuts”. Popular fancy cuts include the baguette, marquise, princess cut (square outline), heart, briolette (form of rose cut) and pear cut. Newer cuts that have been introduced into the jewelry industry are the ‘Cushion’, ‘Radiant’ (similar to princess cuts, but with rounded edges instead of square edges) and ‘Asscher’.

- **Size:** Size is usually measured in millimeters. Size of Diamond depends on the shape.

- Round = 1 carat = 6.5 mm
- Princess = 1 carat = 5.5 mm
- Cushion = 1 carat = 5.5 mm
- Oval = 1 carat = 7.7 mm
- Emerald = 1 carat = 7.0 mm
- Heart = 1 carat = 6.5 mm
- Pear = 1 carat = 7.7 mm
- Marquise = 1 carat = 10.0 mm
- Asscher = 1 carat = 5.5 mm
- Radiant = 1 carat = 7.0 mm<sup>29</sup>

▪ **Color:** The finest quality as per color grading is totally colorless, which is graded as D color Diamond i.e. absolutely free from any color. The next grade has a very slight trace of color, which can be observed by any Diamond expertise. These are graded as E color or F color Diamond. Diamonds which show very little traces of color are graded as G color or H color Diamond. Slightly colored Diamond is graded as I color or J color or K color. A Diamond can be found in any color in addition to colorless. Some of the colored Diamond, such as pink is very rare.<sup>30</sup>

- **Surface:** Diamonds are naturally lipophilic and hydrophobic, which means the diamonds surface cannot be wet by water, but can be easily wet and stuck by oil.<sup>31</sup>

### **PHYSICAL PROPERTIES**

- **Hardness:** Hardness is resistance to scratching or piercing. Diamond is hardest known material on both the Vickers scale and the mohs scale.<sup>32</sup>

- **Texture:** Soft, Lustrous.<sup>33</sup>

- **Specific gravity:** Specific gravity is relative to the weight of an object in air and its weight in water; it is ratio and isn't expressed in unit.

Specific gravity of Diamond is 3.5 – 3.53<sup>34</sup>

- **Toughness:** Toughness is ability to resist breakage from forceful impact. Diamond is quite tough; however, it can be broken by hard blow. The toughness of natural Diamond has been measured as 7.5 – 10 MPa·m<sup>1/2</sup><sup>35</sup>

### **OCCURRENCE AND AVAILABILITY**

'Vajra' is available in natural and artificial forms. Earlier to mid – 18<sup>th</sup> century, India and Brazil were main producers of Diamond. Later the diamonds were traced in many other countries. Presently the main producers of Diamond are; South Africa, USA, USSR, Ghana and Botswana.<sup>36</sup>

### **FORMATION OF VAJRA**

'Vajra' one of the *Ratna* is believed to be formed by bones of '*Dadhichi Rushi*'; also the types of '*Vajra*' according to '*Jati*' are formed from different parts of '*Dadhichi Rushi*'. There is also a belief that during "*samudra manthan*" few drops of

“Amruta” (Nectar) fell down on earth and formed ‘Vajra’.<sup>37</sup>

The formation of ‘Vajra’ or Diamond is by two methods viz. Natural and Artificial. There is no human intervention in the natural method; whereas artificially diamonds are prepared in laboratory.

#### **A. NATURAL METHOD**

Most gem quality diamonds come from depths of 150 – 250 km in the lithosphere. Such depths occur below cratons in mantle keels, the thickest part of the lithosphere. These regions have high enough pressure and temperature to allow diamonds to form and they are not convecting, so diamonds can be stored for billions of years until kimberlite eruption samples them. Diamonds in the mantle form through a metasomatic process where a C-O-H-N-S fluid or melt dissolves minerals in a rock and replaces them with new minerals. Diamonds form from this fluid either by reduction of oxidized carbon (e.g., CO<sub>2</sub> or CO<sub>3</sub>) or oxidation of a reduced phase such as methane. Using probes such as polarized light, photoluminescence and cathodoluminescence, a series of growth zones can be identified in diamonds. The characteristic pattern in diamonds from the lithosphere involves a nearly concentric series of zones with very thin oscillations in luminescence and alternating episodes where the carbon

is reabsorbed by the fluid and then grown again. Diamonds from below the lithosphere have a more irregular, almost polycrystalline texture, reflecting the higher temperatures and pressures as well as the transport of the diamonds by convection. Diamonds are brought close to the earth surface through deep volcanic eruptions by a magma, which cools into igneous rocks known as kimberlites and lamproites.<sup>38</sup>

#### **B. ARTIFICIAL METHOD**

Synthetic diamonds are diamonds manufactured in a laboratory, as opposed to diamonds mined from the Earth. The majorities of commercially available synthetic diamonds are yellow and are produced by so-called high-pressure high-temperature (HPHT) processes. The yellow color is caused by nitrogen impurities. Other colors may also be reproduced such as blue, green or pink, which are a result of the addition of boron or from irradiation after synthesis. Another popular method of growing synthetic diamond is chemical vapor deposition (CVD). The growth occurs under low pressure (below atmospheric pressure). It involves feeding a mixture of gases (typically 1 - 99 methane to hydrogen) into a chamber and splitting them to chemically active radicals in plasma ignited by microwaves, hot filament, arc discharge, welding torch or laser. This

method is mostly used for coatings, but can also produce single crystals several millimeters in size.<sup>39</sup>

### **PURITY TEST**

Early diamond identification tests included a scratch test relying on the superior hardness of diamond. This test is destructive, as a diamond can scratch another diamond, and is rarely used nowadays. Instead, diamond identification relies on its superior thermal conductivity. Electronic thermal probes are widely used in the gemological centers to separate diamonds from their imitations. These probes consist of a pair of battery-powered thermistors mounted in a fine copper tip. One thermistor functions as a heating device while the other measures the temperature of the copper tip: if the stone being tested is a diamond, it will conduct the tip's thermal energy rapidly enough to produce a measurable temperature drop. This test takes about two to three seconds. Whereas the thermal probe can separate diamonds from most of their stimulants, distinguishing between various types of diamond, for example synthetic or natural, irradiated or non-irradiated, etc., requires more advanced, optical techniques. Those

techniques are also used for some diamonds stimulants, such as silicon carbide, which pass the thermal conductivity test. Optical techniques can distinguish between natural diamonds and synthetic diamonds. They can also identify the vast majority of treated natural diamonds. "Perfect" crystals (at the atomic lattice level) have never been found, so both natural and synthetic diamonds always possess characteristic imperfections, arising from the circumstances of their crystal growth, that allow them to be distinguished from each other. Laboratories use techniques such as spectroscopy, microscopy and luminescence under shortwave ultraviolet light to determine a diamond's origin. They also use specially made instruments to aid them in the identification process. Two screening instruments are the Diamond Sure and the Diamond View.<sup>40</sup>

### **SHODHANA OF ‘VAJRA’**

Before using as a medicine ‘Vajra’ is purified in order to eliminate any of its possible harmful or adverse effects. *Shodhana* process is mentioned in various *Rasashastra* classics for pharmaceutical use.

<b>Sr.</b>	<b>Reference</b>	<b>Drug</b>	<b>Procedure</b>
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No.			
1.	<i>Ayurved Prakash 5/76</i>	<i>Kantakari Kand, Kodrava Kashaya</i>	<i>Asuddha Vajra kept in Kantakari Kand and hanged in dolayantra containing Kodrava Kashaya, placed over intense fire. After swedana for 7 days Vajra is purified.</i> <sup>41</sup>
2.	<i>Ayurved Prakash 5/77</i>	<i>Kantakari Kand, Kodrava &amp; Kulattha Kwatha</i>	<i>Asuddha Vajra kept in Kantakari Kand and hanged in dolayantra containing Kodrava &amp; Kulattha Kwatha, placed over intense fire. After swedana for 3 days Vajra is purified.</i> <sup>42</sup>
3.	<i>Ayurved Prakash 5/78</i>	<i>Kantakari Kand, horse urine or Indian Spurge tree milk</i>	<i>Asuddha Vajra kept in Kantakari Kand and covered with mud. ‘Putra’ given for 24 hours and then after removal horse urine or Indian Spurge tree milk is sprinkled on vajra. Thus vajra is purified.</i> <sup>43</sup>
4.	<i>Ayurved Prakash 5/79- 80</i>	<i>Kantakari Kand, horse urine</i>	<i>Asuddha Vajra kept in Kantakari Kand and covered with buffalo dung. ‘Putra’ given for 3 to 4 hours at night time and horse urine sprinkled on it in the morning. Repeating the procedure for 7 days Vajra is purified.</i> <sup>44</sup>
5.	<i>Rasa Ratna Sammuchya 4/34</i>	<i>Kulatth Kwatha</i>	<i>Asuddha Vajra tied in a cloth as pottali and hanged in dolayantra containing Kulattha Kwatha, placed over intense fire. After swedana for 3 hours Vajra is purified.</i> <sup>45</sup>
6.	<i>Rasa Tarangini 23/10</i>	<i>Kodrava Kwatha</i>	<i>Asuddha Vajra tied in a cloth as pottali and hanged in dolayantra containing Kodrava Kwatha, placed over intense fire. After swedana for 7 days Vajra is purified.</i> <sup>46</sup>

7.	<i>Rasa Tarangini</i> 23/11	<i>Kulattha Kwatha</i>	<i>Asuddha Vajra</i> tied in a cloth as <i>pottali</i> and hanged in <i>dolayantra</i> containing <i>Kulattha Kwatha</i> , placed over intense fire. After <i>swedana</i> for 3 days <i>Vajra</i> is purified. <sup>47</sup>
8.	<i>Rasatantra ngini</i> 23/2	<i>Indian Spurge tress</i>	<i>Asuddha vajra</i> is heated red hot over intense fire and dipped in enough quantity of Indian Spurge tree milk This procedure is repeated 100 times and <i>Vajra</i> is purified <sup>48</sup>
9.	<i>Rasatantra ngini</i> 23/1 3-14	<i>Indian Spurge tress</i>	<i>Asuddha vajra</i> is heated red hot over intense fire and dipped in enough quantity of <i>Shuddha parada</i> . This procedure is repeated 100 times and <i>Vajra</i> is purified <sup>49</sup>

### **NECESSITY OF ‘VAJRA’ SODHANA**

- According to *Rasa Tarangini* “*Vajra Bhasma*” prepared from impure ‘*Vajra*’ causes *Parhsua Pida* (pain in flanks), *Rakta Dushti Janya Kushta* (skin diseases), *Tapa Vriddhhi* (increases body Temperature), *Bhrama* (giddiness), *Murccha* (syncope) and such other complications. <sup>50</sup>
- According to *Ayurved Prakash* “*Vajra Bhasma*” prepared from impure ‘*Vajra*’ causes *Kushta* (skin diseases), *Parshwa Vedana* (pain in flanks), *Pandu Roga*, *Santapa* and *Sharir Jadata* (heaviness of body). So, it is most essential to purify Diamond before *Marana*. <sup>51</sup>

### **MARANA OF ‘VAJRA’**

Sr. No	Referen ce	Drug	Procedure
1.	<i>Ayurved Prakash</i> 5/81-82	<i>Trivarshi Kapas</i> or <i>Trivarshi Nagervel</i> roots , <i>Trivarshi Kapas</i> or <i>Trivarshi</i>	Take <i>Trivarshi Kapas</i> or <i>Trivarshi Nagervel</i> roots taken and <i>Kalka</i> made in its <i>Swarasa</i> only. <i>Vajra</i> kept inside <i>Kalka</i> and 7 <i>Putra</i> given to obtain <i>Vajra Bhasma</i> . <sup>52</sup>

		<i>Nagervel Swarasa</i>	
2.	<i>Ayurved Prakash 5/83-84</i>	Donkey urine, <i>Patratat (Hartal type)</i> , Bed Bug blood, Horse urine	<i>Vajra</i> is heated red-hot over intense fire and sprinkled with donkey urine for 21 times. Then make <i>Kalka of Patratat</i> in blood of bed bug and heat over fire. Repeat the similar procedure with horse urine to obtain <i>Vajra Bhasma</i> . <sup>53</sup>
3.	<i>Ayurved Prakash 5/85</i>	Frog urine	Take frog urine in <i>Kansya Patra</i> and dip heated <i>Vajra</i> in it. Repeat the procedure 21 times to obtain <i>Vajra Bhasma</i> . <sup>54</sup>
4.	<i>Ayurved Prakash 5/86-87</i>	<i>Meshashruna</i> , <i>Sarpa Asthi</i> , <i>Kurma Prusta</i> , <i>Amlavetas</i> , <i>Sasha Danta</i> , <i>Thuvar Dugdha</i>	Take <i>Meshashruna</i> , <i>Sarpa Asthi</i> , <i>Kurma Prusta</i> , <i>Amlavetas</i> and <i>Sasha Danta</i> in equal quantity each and make <i>Kalka</i> in <i>Thuvar Dugdha</i> . Keep the <i>Vajra</i> in <i>Kalka</i> and heat to obtain <i>Vajra Bhasma</i> . <sup>55</sup>
5.	<i>Ayurved Prakash 5/88</i>	<i>Kulattha Kwath</i> , <i>Hingu</i> , <i>Saindhav</i>	Take <i>Kulattha Kwath</i> with <i>Hingu</i> and <i>Saindhav</i> dip heated <i>Vajra</i> in it for 21 times to obtain <i>Vajra Bhasma</i> . <sup>56</sup>
6.	<i>Rasa Ratna Sammuc hya 4/35-37</i>	Bed Bug blood, <i>Mushak Mansa</i> , <i>Kulattha Kwath</i>	Give 4 <i>Bhavana</i> of Bed Bug blood to <i>Vajra</i> and then keep it in <i>kalka</i> of <i>Mushak Mansa</i> . Then <i>Kalka</i> enclosed in <i>Saravasamputa</i> and subject for <i>Varahaputa</i> . After 30 <i>Putra</i> heat <i>Vajra</i> on charcoal and dip in <i>Kulattha Kwath</i> for 100 times to obtain <i>Vajra Bhasma</i> . <sup>57</sup>
7.	<i>Rasa Ratna Sammuc hya 4/38-40</i>	<i>Manashila Kalka</i> , <i>Kulattha Kwath</i> , <i>Lakucha Phal Swarasa</i> , <i>Suddha Parad</i>	Make <i>Kalka</i> of <i>Manashila</i> with <i>Kulattha Kwath</i> and <i>Lakucha Phal Swarasa</i> . Paint the <i>Musha</i> from inside with <i>Kalka</i> keeping <i>Vajra</i> in <i>Musha</i> close its mouth and subject to <i>Gajaputa</i> . After 8 <i>Putra</i> heat <i>Vajra</i> on charcoal and dip in <i>Suddha Parad</i> for 100 times to

			obtain <i>Vajra Bhasma</i> . <sup>58</sup>
8.	<i>Rasa Ratna Sammuc hya 4/41-42</i>	Bed Bug blood, <i>Kasamarda Swarasa</i>	<i>Vajra</i> is covered with <i>Lepa</i> of Bed Bug blood and dried. Procedure repeated 7 times then <i>Vajra</i> heated on charcoal and dipped in <i>Loha Patra</i> filled with <i>Kasamarda Swarasa</i> for 7 times to obtain <i>Vajra Bhasma</i> . <sup>59</sup>
9.	<i>Rasa Ratna Sammuc hya 4/43</i>	<i>Nilajyoti Lata Kanda</i>	Triturate <i>Vajra</i> with <i>Nilajyoti Lata Kanda</i> and dry in sun to obtain <i>Vajra Bhasma</i> . <sup>60</sup>
10.	<i>Rasa Ratna Sammuc hya 4/44-45</i>	Earthworm, <i>Madhanphala Swarasa</i> or <i>Kwatha</i>	Earthworm is made hard in <i>Madhanphala Swarasa</i> or <i>Kwatha</i> and <i>Kalka</i> prepared. Cover the <i>Vajra</i> with the <i>Lepa</i> of <i>Kalka</i> then enclose in <i>Saravasamputa</i> and subject for <i>Gajaputa</i> . <i>Putra</i> given for 20 times to obtain <i>Vajra Bhasma</i> . <sup>61</sup>
11.	<i>Rasa Tarangi ni 23/15- 17</i>	<i>Suddha Haratala, Suddha Gandhaka, Suddha Hingula, Swarna Maksika Bhasma, Rajakola Drava, Aswattha Twak Kwatha</i>	<i>SuddhaVajra</i> fine powder added with equal quantities of <i>Suddha Haratala, Suddha Gandhaka, Suddha Hingula</i> and <i>Swarna Maksika Bhasma</i> ; then triturated in <i>khalvayantra</i> to obtain homogenous mixture. This mixture added with required quantity of <i>Rajakola Drava</i> and triturated. Later mixture subjected for 7 <i>bhavanas</i> of <i>Aswattha Twak Kwatha</i> and dried in sun. Dried mixture enclosed in <i>Saravasamputa</i> and subjected for <i>Gajaputa</i> . The entire procedure and <i>Gajaputa</i> is repeated except addition of <i>Swarna Maksika Bhasma</i> till perfect <i>Vajra Bhasma</i> is obtained. (approximately 15 <i>Gajaputa</i> required) <sup>62</sup>
12.	<i>Rasa Tarangi ni</i>	<i>Parada Bhasma</i> or <i>Rasasindura, Suddha</i>	<i>Suddha Vajra</i> fine powder added with equal quantities of <i>Parada Bhasma</i> or <i>Rasasindura, Suddha Manashila</i> and <i>Suddha Gandhaka</i> ; then triturated in <i>khalvayantra</i>

	23/18- 21	<i>Manashila, Suddha Gandhaka</i>	to obtain homogenous mixture. Mixture enclosed in <i>Saravasamputa</i> and subjected for <i>Gajaputa</i> . The entire procedure and <i>Gajaputa</i> is repeated except addition of <i>Parada Bhasma</i> or <i>Rasasindura</i> , till perfect <i>Vajra Bhasma</i> is obtained. (approximately 14 <i>Gajaputa</i> required) <sup>63</sup>
13.	<i>Rasa Tarangi ni</i> 23/22- 24	<i>Suddha Haratala, Suddha Manashila, Karpasa Mula Swarasa</i>	<i>Suddha Vajra</i> fine powder added with equal quantities of <i>Suddha Haratala</i> and <i>Suddha Manashila</i> ; then triturated in <i>khalvayantra</i> to obtain homogenous mixture. This mixture added with required quantity of <i>Karpasa Mula Swarasa</i> and triturated for 3 hours. Later dried mixture enclosed in <i>Saravasamputa</i> and subjected for <i>Mahaputa</i> . The entire procedure and <i>Mahaputa</i> is repeated, till perfect <i>Vajra Bhasma</i> is obtained. (approximately 14 <i>Mahaputa</i> required) <sup>64</sup>

**‘VAJRA BHASMA’ COLOR**

White <sup>65</sup>

**PHARMACOLOGICAL ACTIONS OF  
‘VAJRA BHASMA’**

- Perfectly prepared ‘*Vajra Bhasma*’ is a good cardio tonic and possesses all six *rasa*. It has synergistic action and is one among the best rejuvenators. It is indicated in *Rajayaksma*, *Prameha*, *Medovikara*, *Panduroga*, *Sotha* and *Udararoga*. It is best medicine to cure impotency and is a good aphrodisiac. Its judicious use provides longevity, improves the eyesight, enhances physical strength, mitigates all the three vitiated doshas, improves skin

complexion and promotes intellect. With rational use, ‘*Vajra Bhasma*’ can cure many more diseases. So, it is equated with nectar (*Sudha*) in classics. <sup>66</sup>

- Consuming perfectly prepared ‘*Vajra Bhasma*’ provides longevity, health, strength, improves skin complexion, brings happiness and cures all diseases. <sup>67</sup>

**THERAPUTIC DOSE OF ‘VAJRA  
BHASMA’**

1/32 *ratti* - 1/16 *ratti* (3.9 mg – 7.8 mg) <sup>68</sup>

**VAJRA BHASMA – DOSE  
PREPARATION**

One *ratti* (125 mg) of ‘*Vajra Bhasma*’ is titrated with four *masa* (4 gm) of ‘*Rasasindura*’ and mixture stored in airtight container. In suitable disease conditions, one or two *ratti* (125 to 250 mg) of this mixture can be administered daily along with suitable adjuvant.<sup>69</sup>

### **FORMULATIONS OF ‘VAJRA’**

*Kandarpakokilaras,*                      *kamdevras,*  
*Trailokyachintamaniras,*  
*Navratnarajmrugankaras,* *Panchamrutras,*  
*Bhutakushras,*                      *Maniparpati,*  
*Mahamrugakras,*                      *Mahalaxmivilasras,*  
*Mahodadhiras,*                      *Ratnagarbhapottali,*  
*Ratnaprabhavati,*                      *Ratnabhagottararas,*  
*Vajrapanjararas,*                      *Vasantkusumakarras,*  
*Vatakanthakaras,*                      *Vatanashanras,*  
*Varishoshanras,*                      *Sarveshwarras,*  
*Sursundariras and Hirakarasayana.*<sup>70</sup>

### **MATERIALS & METHODS**

Since ages we find the references of ‘gemstones’ in Indian history. References of ‘Diamond’ are found in ‘*Brahat Samhita*’. From *samhita* period therapeutic use of Diamond is mentioned. Later with development of *Rasashastra*, the *shodan*, *marana* and compound formulations of Diamond were introduced.

Various *Ayurvedic Samhitas* with their commentaries by different authors, *Rasa Granthas*, web search, various texts

and journals were studied to collect more information about ‘*Vajra*’ (Diamond).

### **• OBSERVATIONS**

- History of formation of ‘*Vajra*’ is described only in *Ayurved Prakash Rasa Grantha*.
- ‘*Vajra*’ is very important *Ratna* and *Shodan* and *Marana* is very important before consumption.
- Although ‘*Vajra*’ is used in ornaments and is a great attraction of people; its various formulations are formed and is very useful to cure diseases.
- ‘*Vajra Bhasma*’ when consumed in proper dose act as *Rasayan* and increases Immunity.

### **CONCLUSION**

A variety of drugs of plant, mineral and animal origin is been used effectively in *Rasashastra*; ‘*Vajra*’ or Diamond being one of them. Even though it is not toxic in origin, its *Shodhana* is advised to prevent any untoward effects before processing it into any formulations. ‘*Vajra Bhasma*’ is used in many formulations of *Rasashastra* and acts as *Rasayan* also it is equated with nectar (*Sudha*). ‘*Vajra*’ occurs in natural and artificial form. *Marit Vajra* has synergistic action and also used in *Rajayaksma*, *Prameha*, *Medovikara*, *Panduroga*, *Sotha*, etc. ‘*Vajra*’ possesses all six *rasa* and is one among the best

rejuvenators. Thus ‘Vajra’ not only proves itself to be one of the most important drugs in therapeutic use but also stands firm in ornamental usage.

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