

# Kajjali: An Indispensable Component of Rasashastra - A Critical Review

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## ABSTRACT

Rasashastra, also known as Indian alchemy is always on the receiving end as many argue that rasayoga contain heavy metals which are toxic to human system. However, it is time and again proved scientifically that Rasayogas are efficacious and safe and well tolerated, by researchers of Ayurveda. Kajjali is a unique rasayoga which is prepared using parada and gandhaka. Kajjali has different varieties based on the ratio of parada and gandhaka and therapeutic uses of them differ accordingly. Kajjali is also used in the preparation of other rasayoga. This article critically analysis preparation and utility of different kajjalis.

**Key Words:** Rasayoga, Kajjali, Different ratios of kajjali, Sagandha murchana, Bandha

## INTRODUCTION

Rasashastra is a unique branch of Ayurveda popular from medieval period, mostly deals with therapeutic utilization of metals and minerals. Parada is a chief material of rasashastra, Kajjali (black mercury sulphide) is one among such preparations, prepared by using parada (mercury) and gandhaka (sulphur) and is one of the dosage forms of parada. Numerous formulations are mentioned in classical texts with the combination of kajjali along with other ingredients. Kajjali synergistically acts with the herbal drugs. Kajjali is mentioned in different contexts under different headings in rasagranthas. The references are scattered and there is a need to review, compile, analyse and present them systematically.

## DEFINITION OF KAJJALI<sup>1,2</sup>:

When purified parada is triturated with the other purified metals and mineral drugs like sulphur etc.without adding any

liquids till the mixture becomes fine and black colour, it is called as kajjali. Kajjali is the basic preparation in all the sagandha rasa yogas<sup>2</sup>.

## KAJJALI IN DIFFERENT CONTEXT:

- Kajjali can be one type of Parada bandha i.e kajjali Bandha<sup>3</sup>
- It is one type of niragni sagandha murchana<sup>4</sup>
- One of the examples for kharaleeya rasayana

## SYNONYMS:

*Kajjali, kajjala, kajjalika<sup>2</sup>*

## METHOD OF PREPARATION:

1. *Kajjali* can be prepared by triturating purified *parada* with *gandhaka* in different ratios till the mixture becomes fine and black colour<sup>5</sup>.
2. In case of metals, first dhatupishti is prepared by mixing Parada with purified swarnaadidhatu then gandhaka is added

and triturated till the mixture becomes fine and black colour.

Based on the ratio of parada and gandhaka, kajjali will be employed in preparing different (Rasayoga) formulations. The Rasayoga, where in Parada and Gandhaka are in 1: ½ ratio is available in table 1. Similarly, Rasayoga, where in Parada and Gandhaka are in 1:1 ratio is mentioned in Table No 2.

Compilation of formulations with 1:2 ratio is provided in Table no 3. And Table No 4 deals with 1:3 ratio. Likewise, the Rasayoga, where in Parada and Gandhaka are in 1: 4 ratio is available in table 5.

**Table No1, Showing Rasayoga with Ardhaguna gandhaka Kajjali (1: ½ ratio of Parada and Gandhaka):**

Chaturthikahara rasa	Mehari rasa
Suryavartha rasa	Krishnamanikya rasa
Swasantaka rasa	Timirahara Anjana
Arshognavati	Rasasindhura

**Table No 2, Showing Rasayoga with Ardhaguna Samagunagandhaka Kajjali (1: 1 ratio of Parada and Gandhaka):**

Trilokyasundara rasa	Umapasadana rasa	Nava jwarari rasa
Trilokyadambara rasa	Sarvangasundara chintamani rasa	Jalamanjari rasa
Jwaragajakeshari	Suchimukha rasa	Kanta rasa
Dipika rasa	Sannipatha gajankusha rasa	Chandrodaya rasa
Sheetabhanji rasa	Chaturtika gajankusha rasa	Jeerna jwarari rasa
Mruthasanjeevana rasa (dhwithiya)	Panchavakra rasa	Navajwara murari rasa
Mahajwarankusha rasa	Unmatta rasa	Raktapittankusha rasa
Jwarankusharasa	Pratapa lankeshwara rasa	Bhutaankusha rasa
Mruthyunjaya rasa (prathama)	Praneshwara rasa	Swasaharavataka
Chandra surya rasa	Sannipatha kutara rasa	Neelakanta rasa
Swasakasakarikesari rasa	Trilokyatilaka rasa	Ajeernakantaka rasa
Surya rasa	Sudhasara rasa	Visuchividhwamsa rasa
Kajjali yoga	Nagasundara rasa	Vaishwanara potali rasa
Kanaka sundara rasa	Agnikumara rasa	Amrutha vati
Kshayashamaka rasa	Chandasamgrahagadhaikapata rasa	Rakshasa rasa
Vajra rasa	Laghusiddhabhra rasa	Vadavanala rasa
Thrushnahara yoga	Sheegrprabhava rasa	Agni janani vati
Sarvalokhashraya rasa	Potali rasa	Sarvarogakulantaka vati
Arkesharasa	Vahnijwalavati	Trivikrama rasa
Tikshnamukha rasa	Vajradhara rasa	Panchaanana rasa
Pramehari rasa	Gulmanashana rasa	Arogyasagara rasa
Bhimaparakrama rasa	Vadavanala vati	Trilokyadundhara rasa
Rajamrugankarasa	Agnikumara rasa	Vijayagutika
Mehahara rasa	Leelavilasa rasa	Jayapala rasa
Ubhayabhaskara rasa	Jeemutakadi vati	Kameshwara rasa
Deeptamara rasa	Vinodavidyadhara rasa	Suptakushtari rasa
Vidyadhara rasa	Vaishwnara rasa	Pratapalankeshwara rasa
Vaishwanara rasa	Suryaprabhagutika	Kustanashana rasa
Agnikumara rasa	Khageshwara rasa	Haribolankusha rasa
Sarvangasundhara rasa	Arogyavardini vati	Shwithra kustari rasa
Vishwahita rasa	Jantughni vati	Sarvakustantaka taila
Kushta kutara rasa dwithiya	Dhanvantari rasa	Kustavidravana taila
vyoshadhi gutika	Trilokyavijaya rasa	Kanguni taila
Dadrुकustavidravana rasa	Shwithrari rasa	Meghanaadadi udvartana
Manikya tilaka rasa	Vrukodara rasa	Kustavidwamsana rasa
Taleshwara rasa	Swachandabhairava rasa (prathama)	Trayambakeshwara rasa
Shilaadi lepa	Swachandabhairava rasa (dwithiya)	Vijayabhairava taila (prathama)
Krimishoolahara rasa	Vadavanala rasa	Vijayabhairava taila (dwithiya)
Krimishoolasamhara rasa	Vardhanya rasayana	Suta taila
Sparshavatari rasa	Maasika rasayana	Madanamunmad rasa
Ratnabhagottara rasa	Shanmaasika rasayana	Sutendra rasa
Apasmara nashana yoga	Kamalavilasa rasa	Madanakamadeva rasa
Vajraadi vatika	Sindura rasa	Rasa parpati
Mani parpata rasa	Madanasundara rasa	Rasasindhura
Gandhakaadi lepa	Purnachandra rasa dwithiya	Samirapannaga rasa
Rasaadi lepa	Tarksya sutra	Swarna vanga

**Table No 3, Showing Rasayoga with Dwiguna gandhaka Kajjali (1: 2 ratio of Parada and Gandhaka)**

Mruthasanjeevana rasa (thruthiya)	Sarvarogaya vati	Tamradhruthi rasa
Chandrakala rasa	Kravyada rasa	Surechanaka rasa
Agni rasa	Jeevananama rasa	Mahavahni rasa
Bhagottaragutika	Pashanabhedhi rasa prathama	Kushtakutara rasa prathama
Hikkanashana rasa	Pashanabhedhi rasa dwithiya	Vajra shekhara rasa
Rasaparpati	Vataari rasa	Mahataleshwara rasa prathama
Prananatha rasa	Chintamani rasa	Mahataleshwara rasa dwithiya

Table No 3 Continued...		
Panchamruthaparpati	Shula gajakeshari rasa prathama	Kustanta parpati
Arshakutara rasa	Shula gajakeshari rasa dwithiya	Kilasa nashana rasa
Lokeshwara rasa	Ksharatamra rasa	Udayaadiya rasa
Agnitundi rasa	Jayasundara rasa	Lakshmiwilasa rasa
Katimardana rasa	Parpati rasa	Kamalavilasa rasa
Vaatari rasa	Ravitandava rasa	Kusumayudha rasa
Sheetari rasa	Udayaadiya rasa	Rasasindura
Arkeshwara rasa	Sarvarogahara rasayana	Makaradhwaja

**Table No 4, Showing Rasayoga with Triguna gandhaka Kajjali (1: 3 ratio of Parada and Gandhaka):**

Agnimukha rasa	Paradaadi lepa
Grahanikapata rasa (prathama)	Rasasindhura

**Table No 5, Showing Rasayoga with Chaturguna gandhaka Kajjali (1: 4 ratio of Parada and Gandhaka):**

Mahaveerari rasa	Udaya martanda rasa	Sarveshwara rasa (dhwithiya)
Sarveshwara rasa	Triyoni rasa	Shwitrantaka rasa
Udaya bhaskara rasa	Sarveshwara rasa (prathama)	Sarveshwara rasa

Other than these kajjali can be prepared with 1:5 parada-gandhaka ratio also, and this kajjali is used in preparing Rasasindhura. In preparing Kanakasundara rasa, Kalavidwamsana rasa and Rasasindura, kajjali made with the ratio of 1:6 parada gandhaka is useful. If kajjali is prepared using parada and gandhaka in the ratio of 1:8, two varieties of Gandhashma garbha rasa and amrutharnava rasa can be prepared.

### Dhatu pishti:

The second method of kajjali preparation required dhatupishti preparation. Purified foils of metals like gold etc. mixed with the purified mercury to form a soft paste like amalgamate is called dhatu pishti. After preparation of kajjali adding dhatu bhasma doesnot make a proper mixture. Hence amalgamation of mercury and metals is necessary for the proper mixture of metal and mercury.

**Table no 8 showing, indication and anupana/ Sahapana of different kajjalis**

Sl.no	Parada gandhaka ratio	Sahapana /Anupana	Indication
1.	1:1	Ela, maricha, karpura, musta, lavanga and badarabija fine powder along with honey	Chardi
2.	1:1	Varunaadikashaya	Bahya and abhyantaravidradi
3.	1:1	Nimbukamla, sunthi and pippali	Ajirnaroga
4.	1:1	Equal quantity of Ela , ahiphena, karpura, jatiphala ,lavanga along with honey Dose is of 4 ratti	Swapnameha
5.	1:1	Mix with Simsupataila or navaneeta and apply on affected part	Chronic charmadalaroga
6.	1:1	Triturate Kajjali (1part) and dhaturapatra ( 2part) along with chitrakaswarasa and the paste is applied with navaneeta	Kandu and pamaroga

**Table no 6, Showing dhatu pishti in the preparation of kajjali:**

Sl.No	Rasayoga	Dhatu	Rasagrantha
1.	Makaradhwaja	Swarna	Rasatarangini <sup>7</sup>
2.	Sresiddha Makaradhwaja	Swarna	Rasatarangini <sup>8</sup>
3.	Swarnavanga	Vanga	Rasatarangini <sup>9</sup>
4.	Hemagarbha Prathama	Pottali Swarna	Sharangadhara <sup>10</sup>
5.	Hemagarbha Dwithiya	Pottali Swarna	Sharangadhara <sup>11</sup>

### PROPERTIES OF KAJJALI:<sup>10</sup>

With different sahapana and anupana, the kajjali is capable of curing all type of diseases. It acts as vrishya and it mitigates all the three doshas.

**UTILITY OF KAJJALI:** Kajjali is used for therapeutic purpose as a single compound or it serves as a base for preparation of different rasaushadi. Kajjali is also employed as a media for marana which is shown in table no 7.

**Table no 7, Showing Kajjali as media for marana according to different Rasagrantha.**

Sl.no	Rasa Dravya/ Yoga	Rasagrantha
1.	Rajata marana	Ayurveda prakasha <sup>13</sup> Rasatarangini <sup>14</sup>
2.	Tamra marana	Rasaratnasamucchaya <sup>15</sup>
3.	Somanathi tamra bhasma vidhi	Rasaratnasamucchaya <sup>16</sup>

### THERAPEUTIC USES:<sup>10</sup>

The kajjali prepared with different ratio of parada and gandhaka will have different therapeutic uses. Table No 8 comprehensively gives a picture of therapeutic values of various kinds of kajjali in different diseases.

7.	1:1	Equal part saindhavalavana and triturated with arkadugdha and paste is applied	Ganda mala
8.	1:1	Triphalachurna, suddhaguggulu and triturated with earandataila and paste is administered with warmwater or milk	All type of vatajaroga
9.	1:1	Applied with navaneeta	Gajacharmaroga
10.	1:1	Administered along with khandasharkara and amalakiswarasa	All type of madatyaya
11.	1:1	Triturated with datturabijaswarasa and trikatuchurna administered as nasya	sannipatajaroga
12.	1:1	Kajjalikodaya malahara <sup>10</sup> : siktataila (48tola), kajjali(2tola), suddhamrudarasringa (4tola), SuddhaKampillaka(8tola) and suddhatutta (3masha)	Vranashodhana , ropana Nadivrana,
13.	1:2	Karpura, sugandhabala, maricha, sailaja and khandasharkara triturated homogenously in khalvayanta and admistered with water	Excessive thirst and severe vomiting
14.	1:2	Karavellakaswarasa	Severe visarpa
15.	1:2	Sobhanjanatwak rasa along with honey	Bahya and abhyantaravidradi
16.	1:2	Kajjali is subjected to bhavana with vanatulasi and then added with equal quantities of yastimadhu, vasa, pippali, haritaki and vibhitaki fine powder and admistered with warmwater	Swasa, kasa and tamakaswasa
17.	1:2	Administered along with go navaneeta Apatya is lavanasevana	Upadamsaroga

**KAJJALI PAREEKSHA<sup>15</sup>:** Before using it is necessary to examine the kajjali. Examination parameters that the kajjali should qualify are slakshna (smooth), kajjalabha (black colour just like collyrium), nishchandravta (devoid of shiny particles), rekhapurna (seen even through the fine lines on fingers), varitara (floats on the surface of water)

## DISCUSSION

Kajjali is the most commonly used and most popular preparation well known since ancient period. Kajjali is a mixture of mercury with sulphur or any other metals in different ratios. The importance of kajjali lies in the fact that mercury cannot be consumed in its natural form and also it is very difficult to convert mercury into powder form in atmospheric conditions. Therefore, kajjali forms the basic component in maximum herbo-mineral (rasaushadi) formulations<sup>16</sup>. It provides a structural and functional stability to a variety of medicinal preparations made from mercury.

Kajjali is the first step in the preparation of herbo-mineral preparations. Kajjali is used in preparation of different dosage forms like khalvi rasayana, parpati, kupipakwa rasayana, pottali and also used as druti, lepakalpana such as kajjalikodaya malahara, Shadguna gandhaka is considered as more potent compare to other, but by observing above table most of the

herbomineral compound are prepared by parada and gandhaka in a ratio of 1:1 i.e samaguna gandhaka kajjali.

Kajjali also plays an important role in the marana of metals and minerals. Ancient authors opine that the bhasma which is prepared by using parada as a media is considered as best. So, in place of parada, kajjali can be taken as a marana media.

Kajjali is a type of murchana, it attains a vyadhiharatva properties and most commonly used for the therapeutic purpose because of its vyadhiharatva properties, it can also act as rasayana.

## CONCLUSION

The ancient authors describe rasachikitsa is the best treatment but rasa (mercury) cannot be consumed in its natural form therefore mercury is converted into powder form by triturating it with gandhaka in different ratios till the mixture becomes fine and black colour and this mixture used for the therapeutic purpose.

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