

Chandrodaya Rasa: A Critical Review

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Chandrodaya rasa is a classic example of *kupipakwa rasayan* which is one of the exclusive methods of herbo-mineral preparations of *Rasashastra*. This review article analyses 16 different references of *Chandrodaya rasa* also known as *Makaradhwaj*. *Shuddha parad*, *shuddha gandhak* and *shuddha suvarna* are core ingredients of the formulation.

The formulation is prescribed under *rasayan* and *vajikaran rog-adhikar*. All ingredients are wisely picked up in such a manner, that they facilitate the penetration of the formulation to cellular level and rejuvenates body and mind. The literature also claims that it increases the quality of *shukra dhatu*. And it also increases the sexual strength and shows aphrodisiac activity.

Keywords: *Chandrodaya rasa*, *makaradhwaj*, *rasayan*, *vajikaran*, critical review

Introduction

Rasashastra is one of the pillars of Ayurved. This science deals with characteristics, properties and therapeutic uses of different metals and minerals along with detailed study of different herbal and herbo-mineral formulations, their dose, duration and *anupan* as well.⁽¹⁾ With evolving time and demand of medicine, *rasashastris* experimented with various drugs to get the best solution for the disease. Timely documentation of material-methods and observations helped upcoming generation to compile and make critical evaluation of the formulation and that has given a variety of medicine for treating a disease and its various conditions.

Kupipakwa rasayan is one of the exclusive methods of *parad bandhan*, where *parad* and *gandhak* along with other herbs, metals and minerals are blended with each other in a homogenous compound in a classic and scientific manner.⁽²⁾ Due to prolonged and intense *agni samskara*, these formulations have more penetrating power to reach cellular level in the body with lesser dose.

Chandrodaya Rasa is a classic example of *kupipakwa rasayan*.⁽³⁾ *Shuddha Parad*, *shuddha Gandhak* and *shuddha suvarna* are main contents of it. 16 references⁽³⁾ show variety of herbs according to *rog-adhikar*. *Chandrodaya rasa* also known as *Makaradhwaj*, is a potent drug, generally used as

vajikar (aphrodisiac)⁽⁴⁾. *Srotogamitwa* (penetrating action) of the formulation is moulded with various permutations and combination of herbs and *bhavana* (trituration). This article is a critical review of compilation of different references, which help us to determine the combination to be used according to the condition of the disease.

Aim and Objectives

To collect and analyze all available classical references of *Chandrodaya rasa* and to make a critical summary regarding the same.

Material And Methods

Several classical texts of *Rasashastra* were reviewed and references were studied. Some of the classical texts showed different references within, eg. *Rasatarangini* showed 2 references. Different references were studied in a comparative manner in terms of their composition, method of preparation, dose, *anupan* (adjuvant), *bhavana* (trituration substance), *dravya* (content), indications.

Different references have different ingredients, which changes therapeutic efficacy of the formulation. Depending upon condition of the patient and disease, a suitable formulation with appropriate *anupan* should be administered.

Table 1: Different classical references of Chandrodaya Rasa⁽⁵⁻⁷⁾

Sr. No.	Contents	R. Y. S.	R. Pu.	R. Cha.	R. Chi.
1	<i>Parad</i> (Hg)	✓	✓	✓	✓
2	<i>Gandhak</i> (S)	✓	✓	✓	✓
3	<i>Suvarna</i> (Au)	✓	✓	✓	✓
4	<i>Jatiphala</i> (<i>Myristica fragrans</i> Houtt.)	✓	✓	✓	✓
5	<i>Lavanga</i> (<i>Syzygium aromaticum</i> (Linn.) Merr. M.Perry)	✓	✓	✓	✓
6	<i>Kasturi</i> (<i>Musk Deer</i>) (<i>Moschus moschiferus</i> L.)	✓	-	✓	✓

To be Cont.... Table 1: Different classical references of Chandrodaya Rasa⁽⁵⁻⁷⁾

7	<i>Samudraphena</i> (<i>Sepia officinalis</i> .)	✓	-	✓	✓
8	<i>Karpoor</i> (<i>Cinnamomum camphora</i>)	✓	✓	✓	✓
9	<i>Marich</i> (<i>Piper nigrum</i> Linn.)	-	✓	-	-
10	<i>Lavana</i>	-	-	-	-
11	<i>Keshar</i> (<i>Crocus sativus</i>)	-	-	-	-
12	<i>Ambar</i>	✓	-	-	-
<i>Bhavana</i>					
1	<i>Kumari</i> (<i>Aloe vera</i> Linn.)	✓	✓	✓	✓
2	<i>Raktakarpaas</i>	✓	✓	✓	✓
3	<i>Ankolmoola</i> (<i>Alangium salviifolium</i> (Linn. f.)	-	-	-	-
4	<i>Nagvel Patra</i> (<i>Piper betle</i> Linn.)	-	-	-	-
<i>Agni Kaal</i>		3 Days	3 Days	3 Days	3 Days
Total		11	9	10	10

R. Y. S. – *RasYogSagar*; R. Pu. - *Rasendra Puran*, R. Cha. - *Rasa Chandanshu*, R. Chi. - *Rasa Chintamani*Table 2: Different classical references of Chandrodaya Rasa^(8,9)

Sr. No.	CONTENTS	B. R. S.	R. T. I	R. T. II	Ra. Vi.
1	<i>Parad</i> (Hg)	✓	✓	✓	✓
2	<i>Gandhak</i> (S)	✓	✓	✓	✓
3	<i>Suvarna</i> (Au)	✓	✓	✓	✓
4	<i>Jatiphala</i> (<i>Myristica fragrans</i> Houtt.)	✓	-	-	✓
5	<i>Lavanga</i> (<i>Syzygium aromaticum</i> (Linn.) Merr. M.Perry)	✓	-	-	-
6	<i>Kasturi</i> (<i>Musk Deer</i>)(<i>Moschus moschiferus</i> L.)	✓	-	-	✓
7	<i>Samudraphena</i> (<i>Sepia officinalis</i> .)	✓	-	-	-
8	<i>Karpoor</i> (<i>Cinnamomum camphora</i>)	✓	-	-	-
9	<i>Marich</i> (<i>Piper nigrum</i> Linn.)	-	-	-	-
10	<i>Lavana</i>	-	-	-	✓
11	<i>Keshar</i> (<i>Crocus sativus</i>)	-	-	-	✓
12	<i>Ambar</i>	-	-	-	-
<i>Bhavana</i>					
1	<i>Kumari</i> (<i>Aloe vera</i> Linn.)	✓	✓	✓	✓
2	<i>Raktakarpaas</i>	✓	✓	✓	✓
3	<i>Ankolmoola</i> (<i>Alangium salviifolium</i> (Linn. f.)	-	✓	✓	-
4	<i>Nagvel Patra</i> (<i>Piper betle</i> Linn.)	-	-	-	✓
<i>Agni Kaal</i>		3 Days 18 hours		18 hours	3 Days
Total		10	6	6	10

B. R. S. – *BruhadRasaRajSundar*, R. T. – *Rasatarangini*

Table 3: Different classical references of Chandrodaya Rasa⁽¹⁰⁻¹²⁾

Sr. No	CONTENTS	Yo. Ra.	Ra. Chi.	B. R. I	B. R. II	B. R. III
1	<i>Parad</i> (Hg)	✓	✓	✓	✓	✓
2	<i>Gandhak</i> (S)	✓	✓	✓	✓	✓
3	<i>Suvarna</i> (Au)	✓	✓	✓	✓	✓
4	<i>Jatiphala</i> (<i>Myristica fragrans</i> Houtt.)	✓	✓	✓	✓	-
5	<i>Lavanga</i> (<i>Syzygium aromaticum</i> (Linn.) Merr. M.Perry)	✓	✓	✓	✓	-
6	<i>Kasturi</i> (Musk Deer) (<i>Moschus moschiferus</i> L.)	✓	✓	-	✓	-
7	<i>Samudraphena</i> (<i>Sepia officinalis</i> .)	-	✓	-	-	-
8	<i>Karpoor</i> (<i>Cinnamomum camphora</i>)	✓	✓	✓	✓	-
9	<i>Marich</i> (<i>Piper nigrum</i> Linn.)	✓	-	-	✓	-
10	<i>Lavana</i>	-	-	-	-	-
11	<i>Keshar</i> (<i>Crocus sativus</i>)	-	-	-	-	-
12	<i>Ambar</i>	-	-	-	-	-
<i>Bhavana</i>						
1	<i>Kumari</i> (<i>Aloe vera</i> Linn.)	✓	✓	-	-	-
2	<i>Raktakarpaas</i>	✓	✓	-	-	-
3	<i>Ankolmoola</i> (<i>Alangium salviifolium</i> (Linn. f.)	-	-	-	-	-
4	<i>Nagvel Patra</i> (<i>Piper betle</i> Linn.)	✓	-	✓	-	-
<i>Agni Kaal</i>						
		3 Days	3 Days	3 Days	Khalvi	-
Total		11	10	7	10	4

Yo. Ra. – *YogRatnakar*, Ra. Chi. - *Rasendra-Chintamani*, B. R. - *Bhaishajya Ratnavali*

Table 4: Different classical references of Chandrodaya Rasa^(13,14)

Sr. No.	CONTENTS	Ra. Mi. I	Ra. Mi. II	Ra. Mru.
1	<i>Parad</i> (Hg)	✓	✓	✓
2	<i>Gandhak</i> (S)	✓	✓	✓
3	<i>Suvarna</i> (Au)	✓	✓	✓
4	<i>Jatiphala</i> (<i>Myristica fragrans</i> Houtt.)	-	-	✓
5	<i>Lavanga</i> (<i>Syzygium aromaticum</i> (Linn.) Merr. M.Perry)	-	-	✓
6	<i>Kasturi</i> (Musk Deer)(<i>Moschus moschiferus</i> L.)	-	-	✓
7	<i>Samudraphena</i> (<i>Sepia officinalis</i> .)	-	-	✓
8	<i>Karpoor</i> (<i>Cinnamomum camphora</i>)	-	-	-
9	<i>Marich</i> (<i>Piper nigrum</i> Linn.)	-	-	-
10	<i>Lavana</i>	-	-	-
11	<i>Keshar</i> (<i>Crocus sativus</i>)	-	-	✓
12	<i>Ambar</i>	-	-	-
<i>Bhavana</i>				

to be Cont... Table 4: Different classical references of Chandrodaya Rasa^(13,14)

1	<i>Kumari(Aloe vera Linn.)</i>	✓	✓	✓
2	<i>Raktakarpaas</i>	-	-	✓
3	<i>Ankolmoola(Alangium salviifolium (Linn. f.)</i>	-	-	-
4	<i>Nagvel Patra (Piper betle Linn.)</i>	-	-	✓
<hr/>				
	<i>Agni Kaal</i>	3 Days	3 Days	3 Days
	Total	4	4	11

Ra. Mi. – *RasMitra*, Ra. Mru. – *Rasamrut*

Table 5: Matra, Anupan and Kaal of *Makaradhwaj*

Sr. No.	References	Matra (Dose)	Anupan (Vehicle drug)	Kaal (Time of drug administration)
1.	<i>Rasendra-Chintamani</i>	1valla	—	1 year
2.	<i>YogRatnakar</i>	1valla	—	—
3.	<i>Bhaishajya Ratnavali (1)</i>	—	—	—
4.	<i>Bhaishajya Ratnavali (2)</i>	2 ratti	—	—
5.	<i>Bhaishajya Ratnavali (3)</i>	—	—	—
6.	<i>BruhadRasaRajSundar</i>	1valla	—	—
7.	<i>RasaChandanshu</i>	1valla	—	—
8.	<i>RasYogSagar</i>	1valla	—	—
9.	<i>Rasamrut</i>	1-2 valla	Nagvel patra swaras	—
10.	<i>RasMitra (1)</i>	½-1 gunja	—	—
11.	<i>RasMitra (2)</i>	—	—	—
12.	<i>Rasendra Vidhyaneeya</i>	1valla	—	—
13.	<i>RasaChintamani</i>	1valla	—	—
14.	<i>Rasendra Puran</i>	—	—	1 month
15.	<i>Rasatarangini (1)</i>	—	—	—
16.	<i>Rasatarangini (2)</i>	—	—	—

1. *RasYogSagar*: (By Pandit Hariprapanna Sharma)

It is prescribed under *vajikaran rog-adhikar*. *Dwigun gandhak jarit parad* is used to prepare the formulation. All the ingredients are mixed well and triturated with *raktakarpaas* and *kumari swaras*. It is given in *valla* dose.

2. *Rasendra Puran*: (By Ramprasad Vaidya)

In third chapter of the text this *kalpa* is mentioned in *rasayan adhikar*. *Shuddha suvarna*, *shuddha parad* and *shuddha gandhak* are taken in proportion of 2:8:16. Triturating all ingredients with *raktakarpaas* and *kumari swaras* typical *kupipakwa* arrangement is done and *agni samskara* is done for three days. Duration of this *rasayan* to be consumed is mentioned as one month. It is proven to have rejuvenating and anti-oxidant effect in the literature.

3. *Rasa Chandanshu*: (By Dattoballal Borkar)

Dwigun gandhak jarit parad is used to prepare the formulation. All the ingredients are mixed well and triturated with *raktakarpaas* and *kumari swaras*. It is given in *valla* dose. As the *kalpa* is prescribed under *vajikaran adhyaay*, it promotes *shukravruddhi*, rejuvenates body and increases sexual stamina.

4. *Rasa Chintamani*: (By Anantdev Suri)

1st *Stabak* (Chapter) of the text mentions the *kalpa*. *Dwigun gandhak jarit parad* along with *Suvarna* and other contents is triturated with *raktakarpaas* and *kumari swaras*. Prescribed in *valla* dose, this *kalpa* has immensely positive action against *shukrakshay* (oligospermia).

5. *BruhadrasaRajSundar*: (By Dattaram Chaube)

The *kalpa* is prescribed under *rasayan-vajikaran adhikar*. *Dwigun gandhak jarit parad* is used to prepare the formulation. All the ingredients are mixed well and triturated with *raktakarpaas* and *kumari swaras*. It is given in *valla* dose. Along with disease-specific diet and following proper daily routine, it shows *rasayan* effect. It rejuvenates body and regulates metabolism. It is also named as *Makaradhwaj*.

6. *Rasatarangini*: (By Sadanand Sharma)

There are 2 different references compiled in the text.

6.1 *Shuddha suvarna, shuddha parad* and *shuddha gandhak* are taken in proportion of 1:8:16. *Dwigun gandhak jarana* is done with *parad* and *kajjali* is prepared initially. All the ingredients are taken in proportion and are triturated with *raktakarpaas, ankolmoola* and *kumari swaras*. It is named as *Makaradhwaj*.

6.2 In this particular reference, only the proportion of *Suvarna* is changed. *Shuddha suvarna, shuddha parad* and *shuddha gandhak* are taken in proportion of 4:8:16. Rest procedure is kept same as in preparing *makaradhwaj*. The *kalpa* is named as *Siddha-makaradhwaj*. Here they also insist to prepare it with *shadgun gandhak jarit parad* to analyse the changes in its properties.

7. *Rasendra Vidnyaneeya*: (By Ramadarsh Sinha)

Dwigun gandhak jarit parad is used to prepare the formulation. All the ingredients are mixed well and triturated with *raktakarpaas* and *kumari swaras*. It is given in *valla* dose. Text mentions that *makaradhwaj* obtained by this method is from the neck of the bottle. *Suvarna bhasma* is obtained from the base of bottle. It has got *rasayan* and *vajikar* effect on body. Proper diet and routine are also mentioned in the script.

8. *YogRatnakar*: (By Mayurpad Bhikshu)

Chandroday rasa is prepared with *dwigun gandhak jarit parad*. All ingredients are taken in mentioned proportion and are triturated with *raktakarpaas* and *kumari swaras*. Dose is again in *valla praman*. With appropriate diet and changes in daily routine, this *kalpa* acts as efficient *rasayan*. Literature also claims that it stops aging, which might be critically evaluated as it reduces ageing process.

9. *Rasendra-Chintamani*: (By Dhundhuknath)

It is noted in eighth chapter under *vajikaran rog-adhikar*. *Dwigun gandhak jarit parad* is used to prepare the formulation. All the ingredients are mixed well and triturated with *raktakarpaas* and *kumari swaras*. It is given in *valla* dose. Along with that it helps in

rejuvenation of the whole body. It also increases the sexual stamina in the process of intercourse. The duration is given as one year.

10. *Bhaishajya Ratnavali*: (By Govinddas)

There are 3 different references compiled in the text.

10.1 It is similar to that of *Yog-Ratnakar*. It is mentioned under *vajikaran rog-adhikar*.

10.2 This one is a *khalvi rasayan*. No *kupi*-arrangement is done in this. No liquid drug is used for trituration. All the ingredients are taken in appropriate proportion and homogenous mixture is prepared in black stone mortar with pestle. It is mentioned under *vajikaran rog-adhikar*. It is given in dose of 2 *ratti*.

10.3 This script is mentioned under *jwar rog-adhikar*. *Shuddha parad, shuddha gandhak* and *shuddha suvarna* are taken in adequate proportion and are triturated with *kumari swaras*.

11. *RasMitra*: (By Tyrambakhnath Sharma)

There are 2 different references compiled in the text.

11.1 *Shuddha suvarna, shuddha parad* and *shuddha gandhak* are taken in proportion of 1:8:16. The mixture is triturated with *kumari swaras*. Literature states that it is proved to nullify all types of *jwar*. Rectifies the state of *agni*. It has got all properties of *rasayan* and *vajikaran*. $\frac{1}{2}$ - 1 *gunja* dose is prescribed.

11.2 In this reference they have altered the procedure. To prepared *kajjali* of *makaradhwaj* 6 times *gandhak* is added and triturated with *kumari swaras*. *Raktaabha-varni* (Blood alike coloured) *makaradhwaj* is obtained, which is named as *Shree-Siddha-Makaradhwaj*.

12. *Rasamrut*: (By Yadavji Trikamji)

The *Makaradhwaj kalpa* is mentioned in *Ras-Vidnyaneeya adhyaay*. *Dwigun gandhak jarit parad* along with other ingredients in mentioned proportion is triturated with *raktakarpaas, nagvel-patra* and *kumari swaras*. Dose ranges from 1-2 *valla* with *anupan* of *nagvel-patra swaras*. It reduces ageing and decreases diseases. It increases overall immunity and rejuvenates body and mind. It also sharpens intelligence.

Discussion

Chandroday rasa or *makaradhwaj* is a classic example of *kupipakwa rasayan*. As it says, it is *rasayan*, it obviously rejuvenates the body as well as mind.

Shuddha Parad, shuddha Gandhak and *shuddha Suvarna* are core ingredients of the formulation. Out of which *parad* is

considered as *Shiva-veerya*. It has a power to penetrate rapidly deep in the body. If properly purified it does not leave any traces after its metabolism. *Gandhak* is considered as *Parvati-raj*. *Gandhak* helps *parad* and directs it to the target organ or cell to induce its *rasayan karya*.⁽¹⁾ It reduces burden on kidneys by combining with *parad* which in turn eases its excretion. This *parad-Gandhak kajjali* is *yogavahi*⁽¹⁷⁾ in nature. It carries all the properties of constituents of formulation to target organs. Noble metal gold is triturated with this *kajjali* to enhance its penetration. All *rasayan* properties of *Suvarna* are carried to the whole body with the help of this *kajjali*.

Other ingredients mentioned in different texts viz- *Jatiphala*, *Lavanga*, *Kasturi*, *Samudraphena*, *Karpoor*, *Marich*, *Lavana*, *Keshar*, *Ambar* act on all the *srotas* (organ systems). Co-ordination and regulation of all systems lead to form excellent *oja*.⁽¹⁸⁾ This *oja* leads to enduring youth.

In preparation of *makaradhvaj*, usually *dwigun gandhak jarit parad* is used as observed in references. This helps *parad bandhan* and *parad utthan* as well. Molecules of sulphur bind with mercury. Trituration provides adequate heat to form the bond and excess sulphur helps mercury to evaporate and to settle near the narrow neck of bottle during *kupipakwa* process. Whereas in *siddha-makaradhvaj*, *parad-gandhak-suvarna kajjali* is prepared and is again triturated in *gandhak* for six times. This makes the formulation exponentially potent and reduces its dose as well.

Bhavana with *raktakarpaas*, *kumari swaras*, *ankolmoola*, *nagvel-patra swaras* mentioned in different references, help in combining all ingredients homogenously. Trituration reduces particle size and increases surface area which helps the formulation to penetrate rapidly to cellular extent and induce its action by combining with receptors present on cell membrane.

Agni samskara is given for 72 hours in a gradually increasing order, except for 2 references in *Ras-tarangini*. In *Ras-tarangini*, heat is gradually given for 18 hours. This *agni samskara* is essential in *kupipakwa rasayan*. It plays a crucial role in evaporation of sulphur and formation of the *rasayan*. Inadequate heat might form the medicine but it may not withstand the standards mentioned in the authentic guidelines.⁽¹⁹⁻²²⁾ Improperly prepared formulation will also hamper its penetration activity.

In most of the references of *makaradhvaj*, dose is prescribed as 1-2 *valla*. This 1 *valla* consists of 3 *ratti/gunja*. And 1 *ratti/gunja* is 125mg in metric system⁽¹²⁾. Thus 1 *valla* consists of 750mg. In some references it is given as ½-1 *ratti/gunja*, which is 60-120mg. Specific *anupan* is not mentioned, yet proper diet and daily routine is mentioned in almost all

references. Duration varies from one month to one year. *Saviryata avadhi* i.e., shelf life of this *rasayan* is said to be 10 years.⁽¹⁶⁾

This *kalpa* is prescribed under the domain of *rasayan* and *vajikaran*. Therefore, it rejuvenates metabolism at cellular level and regulates the bodily activities by timely secretions of enzymes and hormones. Literary review also reveals that it improves quality of *sapta dhatus*. As it is *vajikar* in nature, it improves sexual power and stamina. It is proved to have aphrodisiac activity and increases quality of sperms.⁽¹⁵⁾

Conclusion

1. To understand a formulation, it is very important to take a literary review, as it helps to analyse critically the changing material and methods of the same formulation down the time.
2. In case of this particular formulation, only *dwigun gandhak jarit* and in some cases *shadgun gandhak jarit parad* is used in preparation. Other methods like *samagun*, *trigun*, *chaturgun gandhak jarit parad* might be useful.
3. To obtain the desire effects of *rasayan* and *vajikaran*, *anupan*, *matra*, *pathya-apathya*, *din-charya* are important factors.
4. Being student of ras-shastra, all the possible experiments should be done to get the best and cost-effective solution to cure the disease.
5. Comparative pharmaceutico-analytical tests can be done by preparing the formulation with different classical methods to develop standards.

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