



Review Article

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IMPORTANCE OF PUTA IN RASA SHASTRA: A REVIEW

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ABSTRACT

Ayurveda the science of life gives importance to keep balance between nature and human relationship. From Vedic period to Samhita period there was less use of metals/minerals in formulation, but from the period of Nagarjuna formulation of herbo-mineral drugs are used profusely. A careful survey of the original texts on Rasashastra shows that subject covers the entire field of inorganic pharmaceutical preparation like metallic, nonmetallic and organometallic compounds of Ayurvedic material media. Shodhana and marana of the substance are done with some special processes and thereafter can be used therapeutically. A process in which the substance placed inside a covered container is subjected to specified quantity of heat using various sizes of pits i.e. puta. it is process of heating in a specific heating grade (puta) in particular atmosphere for a specified period, leading to proper incineration of the material. Puta (Agni) work is basis on quantum heat theory, (quantum heat theory is a branch of physics which is the fundamental theory of nature at small scales and low energy levels of atoms and subatomic particles). This article is focused on importance of puta in Rasashastra a review.

Keywords: Puta, Agni, Cow dung cakes, Muffle furnace.

INTRODUCTION

Rasadravyas can be used safely only after pharmaceutical processing. These include, Shodhan, Mardana, Dhalana, Jarana etc. Agni plays an important role for providing Agni, various Puta have been described¹.

Puta is a system of heating that gives an understanding of how much paka (heating) is required for a particular metal or mineral for its conversation into ashes, during putapaka. In this process, successive putas are given as prescribed in the texts or till the proper fineness & bhasma quality are obtained. As only measured heating is always recommended for achieving desired medicinal products, neither more nor less heating is desirable².

The decision over number of putas to be applied largely depends on the nature of drug (hardness, density, melting point etc) subjected for puta³. In general, the ancient authors recommend 10 to 100 putas for many rasa dravya for their purification or for incineration. In case of Lauha bhasma 10 to 100 puta are advised to make the bhasma, for Vajikaran karma 10 to 500 puta and 100 to 1000 puta are advised to make the bhasma fit for Rasayana karma⁴. Drug with less hardness may require only one puta. The calcium compounds like Sankha, shukti, kaparda require three putas for their incineration. Whereas, the gold, copper and other such metals require up to 40 putas for better incineration⁵.

Aim & objects

- To provide a particular temperature pattern (no less or more heating).
- Reduction in particle size.
- To provide a suitable atmosphere for desirable chemical reaction.
- To make the material ductile, smooth & homogenous.
- To potentiate the material for therapeutic purposes.
- To make the material absorbable, colloidal, adaptable & assimilable form.
- Putas generates following properties into the bhasmas doshavinasha, gunaprakarsha, niruthatva, dipana, varitaratva, apunarbhava, laghutva, shighravayapti, more effective than jaritaparada, rekhapurnatwa, vichitragunadipti etc⁶.

Classification of puta

According to the source of heat:

1. Agni puta: paka through fire.
2. Surya puta: paka through sun Rays.
3. Chandra puta: paka through moon Rays.

Table 1: According to temperature⁷

No.	Temperature	Puta
1.	High temperature	Mahaputa, Gajaputa
2.	Medium temperature	Ardhagaja, Varaha & Kukkutputa
3.	Low temperature	Kapot, Laghu & Lavakaputa

Table 2: According to Dimensions

Name	Dimension metric system (cu cm)	Uppala	Maximum temperature	Swang Shit kala
Mahaputa	91 x 91 x 91	1500	1000 ^o c for 1 hr	10 hrs
Gajaputa	57 x 57 x 57	1000	1000 ^o c for 1hr	10 hrs
Kukkutputa	46 x 46 x 46	100	1000 ^o c for ½ hr	7 hrs
Varahputa	42 x 42 x 42	500	1000 ^o c for ½ hr	6 hrs
Laghuputa	23 x 23 x 23	8	800 ^o c for ½ hr	3.5hrs
Bhudharaputa	20 x 20 x 20	-	140 ^o c for ½ hr	9 hrs
Gorvaraputa	23 x 23 x 23	Uppala Churna	400 ^o c for 4 hrs	23 hrs
Bhandputa	-	-	400 ^o c for 4 hrs	28 hrs
Valukaputa	-	-	400 ^o c for 6 hrs	28 hrs

Chandra and Surya Puta depend on the natural source of energy. i.e. on sun rays and moon rays.

- Chandraputa:** In chandraputa the drug material to suitable bhavana with specified liquid then placed daily night under moon light. According to Rasatantrasara⁸. Chandra puta is explained for Praval Bhasma also known as samskar vishesha.
- Suryaputa:** Also known as Rudra / Bhanu Puta. After bhavana subjected to Sunlight. Paka takes place due to sun

- Praval Bhasma (Surya Puti Rasatantrasara⁹), Also in RRS¹⁰, RT¹¹, Ayurved Prakash¹², Rasendrasarasangraha¹³. Examples – Silajatu sodhana and Bhanupak for loha churna.**
- Agni puta:** Artificial source of energy. Types explained depending upon Agni (Fire). For more (Atitivra): Mahaputa etc. For moderate (Madhyam): Gajaputa, Kukutaputa etc For less (Manda or Atimanda) : Laghuputa etc.

Table 3: Number of Puta according to different Authors

No.	Puta	R. Chu.	R. P. S.	R. R.S.	R. T.	Ay.P.
1.	Mahaputa	+	+	+	+	-
2.	Gajaputa	+	+	+	+	+
3.	Varahaputa	+	+	+	+	-
4.	Kukutaputa	+	+	+	+	-
5.	Kapotaputa	+	+	+	+	-
6.	Govarputa	+	+	+	+	-
7.	Bhandputa	+	+	+	+	-
8.	Balukaputa	+	+	+	+	-
9.	Bhudharaputa	+	+	+	+	-
10.	Lavakaputa	+	+	+	+	-

- Mahaputa:** Total no of Cow Dung: 1500(750+750) dimensions is 2 x 2 x 2 (Rajhastha) According to R.T.¹⁴, and According to Rasendrachudamani¹⁵ 1500(1000+500) also RRS¹⁶ Rasprakashsudhakar¹⁷. According to Sharangdhara 30 vanyopala¹⁸ used for Tamra, Parada, Suvrna, Vajra and Trivanga Bhasma.
 - Gajaputa:** According to RRS 1.1/4 x 1.1/4 x 1.1/4 (Rajhastha)¹⁹, Ground should be flat and dry. Total no. of Cow Dung Used: 1000 (500 + 500) also RT²⁰ and According to Rasendrachudamani²¹ 1000 (700 + 300) also Rasaprakashsudhakar²², and According to Ayurveda prakash 30 or 20 vanyopala²³. Akika, Abhraka, Rajata, Yashada, Loha, Suvrna, Vajra, Hartala, Godanti, Trivanga bhasma.
 - Ardhagajaputa:** Mentioned in different Rasa text book, rya Yadavji clearly explained about Ardhagajaputa for the marana of Tamra and Vanga. (45.3x45.3x45.3) cm. number of Cow dung used: 500.
 - Kukutaputa:** According to Rasendrachudamani 2 x 2 x 2 balista (46 cm) cubical 100 (70+30) vanyopala²⁴ (cow dung cakes) are used also in between and ignite fire. According to RPS: Use of 300 (200+100) vanyopala²⁷. Some author mentioned about the use of 10 vanyopala. Used for Tutha, Parada, Loha, Suvrna Bhasma. There are no sources in the current document.
 - Varahaputa:** 1 x 1 x 1 Aratni (distance between elbow joint upto little finger tip) (42cm) Different opinion about no of vanyopala (as Crodaputa, varnyakhya. Used for Abhraka, Tamra, Rajata and Kapardika bhasma.
 - Laghuputa (kapotputa):** Also known as laghuputa, mriduputa, and swalpaputa. 8 number of vanyopala are heaped up on the ground, around the enclosed samputit dravya explained by Rasaprakashsudhakar³⁰, Rasendra-
- chudamani³¹, RRS³² and RT³³ Used for marana of rajata, svarna, parad, Hartal bhasma.
 - Bhudharaputa:** According to Rasendrachudamani³⁴, 2 angulapramana of depth pit should be made. Put aushadhiyuktasharava inside pit, cover pit with vanyopal and set fire. Also RRS³⁵, RT³⁶, and Rasaprakashsudhakar(8thvanyopala)³⁷. Used for jarana and paradabhasma.
 - Govar (Lavakaputa):** Smallest among all. According to Rasaprakashsudhakar³⁸ 64 tolavanyopalachurna (cow dung powder) or 64 tolatusha, Sharava samputa placed in between and ignite fire. Also explained by Rasendrachudamani, RRS⁴⁰, RT⁴¹, Shodashi pramana (4 tola According to Kalinga Mana). Used for bhasmikarana of mridudravaya i.e. gandhak and parad bhasma, Resembles with Lavaka bird (goraiya).
 - Bhanda (kumbhaputa):** According to Rasaprakashsudhakar Bhandaputa, mridubhandaputa. Tusha(husk) is taken in earthen mud pot, half of the pot is filled with husk, placed the shravasamputa over it and remaining place of the pot also filled with husk and ignite fire the mouth of pot kept open⁴². Also, Rasendrachudamani⁴³, RRS⁴⁴, RT⁴⁵, and Bhavaprakasha also explained the same but the mouth of pot has been closed. No explanation about duration of agni is given.
 - Valukaputa:** Different opinion of different Acharyas: According to RRS: Valuka is taken in earthen mud pot Fill it up to neck and put the sharavasamputa in middle of pot and ignite fire⁴⁶ also Rasendrachudamani⁴⁷, and RT⁴⁸, According to Vagbhata: explained use of Baluka only. According to rasprakashsudhakar use of Baluka and vanyopala⁴⁹. Some text told about the use of Lavana, Kshara, etc. Used for Gandhak jaranarth in parad.

Uses of Puta

Bhaskarana, Remove doshas (harmful effect of drug), Increases quality (Guna's), Convert drugs of minerals metal origin into laghu (light) form as a result bhasma do not sink in

water. Develop dipana property which stimulate whole metabolic process of the body. It encourages the formation of newer compounds that are therapeutically more potent such dhatu bhasma fulfil all the bhasma pariksa and readily accepted by the living body tissue.

Table 4: Uses of puta in according to different Acharya

No.	Puta	R.P. S.	R.R. S.	R.T.	Ay.P.	R.T.S.	Sh. S.
1.	Chandra Puta	-	-	-	-	Praval Bhasma	-
2.	Surya Puta	-	Lauha Churna, Lauha Bhasma	Lauha Shodhan	-	Praval Bhasma	-
3.	Maha Puta		-	-	-	-	Swarna bhasma, Rajata bhasma,
4.	Gaja Puta	Lauha bhasma, pittal bhasma, Kansya bhasma,	-	Abhraka bhasma, Lauha bhasma	Haratala bhasma, Abhraka bhasma, Pittal bhasma, Kansya bhasma, Tamra bhasma, hartala bhasma, Naga bhasma, Rajata bhasma	-	Pittal Bhasma, Tamra bhasma, Seesak (manahshila) bhasma, Vang bhasma, Lauh bhasma, Swarnamakshik bhasma, Abhraka bhasma, Vaikranta bhasma, Mandoor bhasma, Parada bhasma
5.	Varaha Puta	Swarna bhasma, Naga Bhasma.	-	-	-	-	-
6.	Kukut Puta	Swarna bhasma, Rajata bhasma, Tamra Bhasma	-	-	Tuttha bhasma	-	Tuttha bhasma,
7.	Kapota Puta	Swarna bhasma	-	-	-	-	-
8.	Govar Puta	Parada bhasma, swarna bhasma,	Parada Bhasma	-	-	-	Parada bhasma,
9.	Bhand Puta		Parada Bhasma	-	-	-	-
10.	Baluka Puta		-	-	Kaparda bhasma,	-	-
11.	Bhudhara Puta	Rasa bhasma	-	-	-	-	-
12.	Lavaka Puta	Mridu Dravya paka	Mridu Dravya paka -	-	-	-	-

Necessity of puta

To apply proper heat to a substance as per its physical and chemical properties to get Supachya (more assimilable) and Supakwa Bhasma form, as well as number of Puta for particular substance is mentioned. Puta indicates quantities as well as qualitative measure of heating.

Puta in present day

Compared with Muffle Furnace. A furnace is a device used for heating. Sometimes as a synonym for kiln, a device used to fire clay to produce ceramics. In British English the term furnace is used exclusively to mean industrial furnaces which are used for many things, such as the extraction of metal from ore (smelting)

Types

- Blast furnace
- Steelmaking furnaces
- Paddling furnace
- Bessemer converter
- Open hearth furnace
- Basic oxygen furnace
- Electric arc furnace

- Electric induction furnace
- Vacuum furnaces⁵⁰

Furnace

Equipment to melt metals, Casting, change shape, Change properties. Type of fuel important mostly liquid/gaseous fuel or electricity. Low efficiencies due to High operating temperature Emission of hot exhaust gases⁵¹.

Parts

1. Burners: raise or maintain chamber temperature
2. Chimney: remove combustion gases
3. Furnace chamber: constructed of insulating materials
4. Hearth: support or carry the steel. Consists of refractory materials
5. Charging & discharging doors for loading & unloading stock.

DISCUSSION

Purified & detoxified material is mixed with drug for incineration (market drugs) & is litigated and is levigated with particular liquid media for specific period. Pellets are kept in one earthen saucer, covered by another earthen saucer & junction is sealed by mud

smear cloth and allowed to dry it. This saravasamputa is subjected to putra for incineration⁵². The application of heat(puta) should be such that the heat uniformly reaches every particle of the drug placed inside sarava samputa. After self-cooling the pellets are collected & ground to powder form. This process is repeated for specified times. So putapaka process is performed in the following phases.

Mishrana-bhawana - chakrikarana-samputikarana – putapaka - mardana & grahana.

Repetition of this process leads to reduction in particle size and fineness of the particles.

The inorganic contents of drug for levigation (bhasmadravya) supplements supplier, which are favorable to the body. After marana the metals generally convert to their compound form, which are biologically favorable to the body.

CONCLUSION

The particles of mineral and metals become very light after putra. So that its enters in to body and its absorption and assimilation are very easily performed. Hence putapaka or heating treatment for mineral and metals in Rasashastra is emphasis for internal administration.

REFERENCES

1. Banarsidas pt. Kashinathshasti, Motilal, Rasatarangani, Delhi Reprint 8th 2014, page. 35, 3/33-35.
2. Kulkarni prof. Dattatreya Anant, Rasaratnasamuchaya vol. 1, meharchand Lachhman das publications, New Delhi, Reprint: 2010, page. 187, 10/47.
3. Angadi Dr. Ravindra, A textbook of Rasasastra (itro-chemistry and Ayurvedic pharmaceuticals), Chaukhamba surbharti Prakashan Varanasi, first edition 2014, page. 73.
4. Tripathi Dr. Indradeva, Rasendrasarasangraha, chaukhambha orientalia Varanasi fourth edition 2006, pg-83-84, 1/323-328.
5. Angadi Dr. Ravindra, A textbook of Rasasastra (itro-chemistry and Ayurvedic pharmaceuticals), Chaukhamba surbharti Prakashan Varanasi, first edition 2014, page. 73.
6. Kulkarni prof. Dattatreya Anant, Rasaratnasamuccaya vol. 1, meharchand Lachhmandas publications, New Delhi, Reprint: 2010, page -187, 10/48-50.
7. Reddy Dr. K. Rama Chandra, Ocean of Ayurvedic Pharmaceutics, chaukhambha Sanskrit bhawan, Varanasi, first edition: 2007, page110.
8. Rasatantrasar & shiddhprayoga part-1, krishngopal Ayurved bhavana Rajasthan 22 edition 2013 page 94.
9. Rasatantrasangra & shiddhprayoga part-2, krishngopal Ayurved bhavana Rajasthan 22 edition 2013 page 10.
10. Kulkarni prof. Dattatreya Anant, Rasaratnasamuccaya vol. 1, meharchand Lachhmandas publications, New Delhi, Reprint: 2010, page. 117, 5/35.
11. Shasti pt. Kashinath, Rasatarangani Motilal Banarsidas, Delhi Reprint 8th 2014, page. 496, 20/22-24.
12. Sharma shri Gulraj, Ayurveda prakasa, chaukhambha bharti Academy Varanasi, reprint 2014, page 399, 3/255.
13. Tripathi Dr. Indradeva, Rasendrasarasangraha, chaukhambha orientalia Varanasi fourth edition 2006, page-81, 1/309-310.
14. shasti pt. Kashinath, Rasatarangani Motilal Banarsidas, Delhi Reprint 8th 2014, page. 3/38-39.
15. Mishra dr. siddhinandan, Rasendra-chudamani, chaukhambha orientalia Varansi -1, third edition: 2004, page. 96, 5/148-149.
16. Kulkarni prof. Dattatreya Anant, Rasaratnasamuccaya vol. 1, meharchand Lachhmandas publications, New Delhi, Reprint: 2010, page. 188, 10/51-52.
17. Mishra dr. shidhinandan, Rasaprakashsudhakar ,yashodharkrita , chaukhambha orientalia Varanasi third edition 2004 page-242 varaha put 243.
18. Srivastava Dr. smt.Shailaja, Sharnghadhar samhita, Chaukhambha orientalia Varanasi, Reprint edition: 2011, page 260, Madhya khand , 11/19.
19. Kulkarni prof. Dattatreya Anant, Rasaratnasamuccaya vol. 1, meharchand Lachhmandas publications, New Delhi, Reprint: 2010, page. 188, 10/53-54.
20. Shasti, pt. Kashinath, Rasatarangani, Motilal Banarsidas, Delhi Reprint 8th 2014, p.g.37-38, 3/40.
21. Mishra dr. siddhinandan, Rasendra-chudamani, chaukhambha orientalia Varansi -1, third edition: 2004, p.g. 97, 5/150-152.
22. Mishra dr. shidhinandan, Rasaprakashsudhakar, yashodharkrita, chaukhambha orientalia Varanasi third edition 2004 page -243, 10/43-45.
23. Mishra shri Gulrajsharma, Ayurveda prakasa, chaukhambha bharti Academy Varanasi, reprint 2014, page 365, 3/102.
24. Mishra Dr. Shidhinandan, Rasendra-chudamani, chaukhambha orientaliaVaransi -1, third edition: 2004, page. 98, 5/154.
25. Kulkarni prof. Dattatreya Anant, Rasaratnasamuccaya vol. 1, meharchand Lachhmandas publications, New Delhi, Reprint: 2010, page. 189, 10/56.
26. Shasti pt. Kashinath, Rasatarangani, Motilal Banarsidas, Delhi Reprint 8th 2014, page.37-38, 3/42.
27. Mishra dr. Shidhinandan, Rasaprakashsudhakar, yashodharkrita, chaukhambha orientalia Varanasi third edition 2004 page. -243, 10/46.
28. Mishra dr. Shidhinandan, Rasaprakashsudhakar, yashodharkrita, chaukhambha orientalia Varanasi third edition 2004 p.g.-243, 10/45-46.
29. Mishra dr. Shidhinandan, Rasendra-chudamani , chaukhambha orientalia Varansi -1, third edition: 2004, page. 97, 5/153.
30. Mishra dr. Shidhinandan, Rasaprakashsudhakar, yashodharkrita, chaukhambha orientalia Varanasi third edition 2004 p.g.-244, 10/47.
31. Mishra dr. Shidhinandan, Rasendra-chudamani , chaukhambha orientalia Varansi -1, third edition: 2004, page. 98, 5/154.
32. Kulkarni prof. Dattatreya Anant, Rasaratnasamuccaya vol. 1, meharchand Lachhmandas publications, New Delhi, Reprint: 2010, page. 189, 10/57.
33. Shastri pt. Kashinath, Rasatarangani Motilal Banarsidas, Delhi Reprint 8th 2014, page 38, 3/43.
34. Mishra dr. Shidhinandan, Rasendra-chudamani , chaukhambha orientalia Varansi -1, third edition: 2004, page. 100, 5/160.
35. Kulkarni prof. Dattatreya Anant, Rasaratnasamuccaya vol. 1, meharchand Lachhmandas publications, New Delhi, Reprint: 2010, page. 190, 10/62. Page. 41-43.
36. Shastri pt. Kashinath, Rasatarangani, Motilal Banarsidas, Delhi Reprint 8th 2014, page 39, 3/47.
37. Mishra dr. Shidhinandan, Rasaprakashsudhakar, yashodharkrita, chaukhambha orientalia Varanasi third edition 2004 page.-245, 10/52.
38. Mishra dr. Shidhinandan, Rasaprakashsudhakar, yashodharkrita, chaukhambha orientalia Varanasi third edition 2004 page.-244, 10/48.
39. Mishra dr. Shidhinandan, Rasendra - chudamani , chaukhambha orientalia Varansi -1, third edition: 2004, page. 99, 5/156-157.
40. Kulkarni prof. Dattatreya Anant, Rasaratnasamuccaya vol. 1, meharchand Lachhmandas publications, New Delhi, Reprint: 2010, page. 190, 10/58-59.
41. Shastri pt. Kashinath, Rasatarangani, Motilal Banarsidas, Delhi Reprint 8th 2014, p.g.39, 3/44.

42. Mishra dr. Shidhinandan, Rasaprakashsudhakar, yashodharkrita, chaukhambha orientalia Varanasi third edition 2004 p.g.-244, 10/49.
 43. Mishra dr. Shidhinandan, Rasendra - chudamani, chaukhambha orientalia Varansi -1, third edition: 2004, page. 99, 5/158.
 44. Kulkarni prof. Dattatreya Anant, Rasaratnasamuccaya vol. 1, meharchand Lachhmandas publications, New Delhi, Reprint: 2010, page. 190, 10/60.
 45. Shastri pt. Kashinath, Rasatarangani, Motilal Banarsidas, Delhi Reprint 8th 2014, page 39, 3/45.
 46. Kulkarni prof. Dattatreya Anant, Rasaratnasamuccaya vol. 1, meharchand Lachhmandas publications, New Delhi, Reprint: 2010, page. 190, 10/61.
 47. Mishra dr. Shidhinandan, Rasendra- chudamani, chaukhambha orientalia Varansi -1, third edition: 2004, p.g. 99, 5/159.
 48. Shastri pt. Kashinath, Rasatarangani, Motilal Banarsidas, Delhi Reprint 8th 2014, page.39, 3/46.
 49. Mishra dr. Shidhinandan, Rasaprakashsudhakar, yashodharkrita, chaukhambha orientalia Varanasi third edition 2004 p.g.-245, 10/50-51.
 50. Puta.ppt.Raghuveer.pdf.ayurpub.com last view 27 september 2018.
 51. A Hand book of standardization of Ayurvedic Formulation Dr. sudheendra V. Honward, Chaukhambha orientalia Varanasi, first edition 2012.
 52. Ayurbiz vol. 1 no.16 October to December 2014.last view 28 September 2018.
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