

PATANA SAMSKARA – A PRACTICAL REVIEW

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ABSTRACT

The raw Parada gets transformed into an abode of immense potential as and when it undergoes proper Ashta Samskara. To accomplish this, the first act is thorough Shodhana of Parada followed by Samskara to potentiate it. Hence, to practically observe and understand this entire process attempts of Swedana, Mardana, Moorchana, Utthapana Samskara were made. The next Samskara Trividha Patana Samskara was an arduous work and this article explains the detailed attempts of the same.

KEYWORDS: Trividha Patana, Urdhva Patana, Adhah Patana, Tiryak Patana, Samskara, Ashtasamskara.**INTRODUCTION**

The Rasagrantha quotes possibility of Parada having Vangadi, Samparkaja and Kanchuka Dosha till it undergoes the Patana Samskara and then it becomes free from all its Dosha.^[1] As it has been told the main Dosha in Parada are Naga and Vanga which can be naturally occurred^[2] or artificially added for its business and transportation. Patana Samskara helps to eliminate all such impurities^[3] and provide back the most authentic Swaroopa to Parada. Thus, after Moorchana and Utthapana Samskara^[4] an attempt for the further Samskara of Patana was made to practically observe and understand the phenomena.

MATERIALS AND METHODS

The Rasacharya have said Patana are of three types viz. Urdhva, Adhah and Tiryak with base line concept of

placing Agni at the end of Parada and Jala on the opposite end.^[5] Hence, it was decided to take up and perform all Trividha Patana Samskara. So, to accomplish these motives the easily accessible Dravya and Vidhi were selected from references of Ayurveda Prakasha.^{[6][7][8]}

Details of the Practicals**PRACTICAL 1: URDHVAPATANA SAMSKARA**

A] Ingredients: As per the above-mentioned reference, the method of Mardana with Shuddha Svarna Makshika and Shuddha Tuttha was selected for the practical.

Table 1: Ingredients with Quantity.

Ingredients	Quantity
Utthapita Parada (Hydrargyrum/Mercury)	710 g
Shuddha Svarna Makshika	44.375 g
Shuddha Tuttha	44.375 g
Kumari Rasa (Aloe vera)	Q.S (~900g)

B] Method

- Firstly, the Shodhana of Svarna Makshika^[9] “Photo.1” “Photo. 2” and Tuttha^[10] “Photo. 3”

“Photo. 4” were done. Then, fine Churna of these two Dravya was obtained.

- ii. The classical Taptakhalva was replicated by taking electrical heating mantle and the temperature was set to 40°C. “Photo. 5”
- iii. Appropriate size Porcelain Khalva was taken and placed inside this heating mantle.
- iv. Utthapita Parada was subjected to Mardana along with the above listed Churna and Kumari Rasa.
- v. Unidirectional movement of Peshani was maintained until Nashtapishtatva was achieved. “Photo. 6”
- vi. Time required for Mardana was a total of 12 hours.
- vii. Then, the Kalka was smeared in the Adho Bhandra of a proper size mud pot and Damaru Yantra was prepared with 5 layers of Kapadmitti. “Photo. 7”
- viii. Kramagni was given for 12 hours, where temperature of upper pot was maintained between 45-55°C and that of lower pot’s was gradually taken upto 702°C. Temperature was noted with thermal gun.
- ix. Next day, after pots became Swanga Sheeta, the Sandhi Bandhana was opened and Parada Globules adhered onto the Urdhva pot were seen and carefully collected. “Photo. 8”
- x. Little amount of Parada was seen in the Adhaha pot along with Kalka, which was taken, separated and stored.

C] Collection

Collection was done in two steps. Primarily, the dry trituration of the Kalka was done from which 425 g of Parada was retrieved. In the next step, through hot water washing 6 g of Parada was obtained.

Table 2: Amount of Parada retrieved from various methods.

Collection Method	Obtained Quantity
Dry trituration	425 g
Hot water washing	6 g
Total	431 g

PRACTICAL 2: ADHAHPATANA SAMSKARA

A] Ingredients: As per the above-mentioned reference, the method of Mardana with 1/16th each of Triphala Churna, Shigrumoola Churna, Chitrakamoola Churna, Saindhava Lavana and Rajika along with sufficient

Nimbu Sarasa was selected for the practical. The Prayojyanga of Mardana Dravya were found in the Sanskrit commentary of the Shloka in Ayurveda Prakasha.

Table 3: Ingredients with Quantity.

Ingredients	Quantity
Urdhvapatita Parada (Hydrargyrum/Mercury)	431 g
Amalaki Churna (Emblica officinalis)	26.875 g
Bibhitaki Churna (Terminalia bellirica)	26.875 g
Haritaki Churna (Terminalia chebula)	26.875 g
Shigrumoola Churna (Moringa oleifera)	26.875 g
Chitrakamoola Churna (Plumbago zeylanica)	26.875 g
Rajika Churna (Brassica juncea)	26.875 g
Saindhava Lavana (Rocksalt)	26.875 g
Nimbu Rasa (Citrus lemon)	Q.S (~421g)

B] Method

- i. The classical Taptakhalva was replicated by taking electrical heating mantle and the temperature was set to 40°C. “Photo. 9”
- ii. Urdhvapatita Parada along with all the Kashtha Aushadha Churna Dravya and Nimbu Swarasa were added.
- iii. Unidirectional movement of Peshani was maintained until Nashtapishtatva was achieved. “Photo. 10”
- iv. Then, the Kalka was smeared in the Urdhva Bhandra of a proper size mud pot and Damaru Yantra was prepared with 5 layers of Kapadmitti.
- v. A proper pit was dug of the size that fits Adhah pot and was covered with Mrit upto the Lepita Kalka margin of Urdhava pot.
- vi. Madhyamagni was given for 6 hours with combination of various fuel sources like Vanyopala, coconut shell and dry wood logs. “Photo. 11”
- vii. Throughout the procedure, temperature was maintained between 400-600°C.
- viii. Next day, after pots became Swanga Sheeta, the pit was dug again to take out the Damaru Yantra carefully.
- ix. Sandhi Bandhana was opened and Parada Globules appearing and shining like pearls adhered onto the Adhah pot were seen and cautiously collected. “Photo. 12”
- x. Whereas, in the Urdhva pot with slight tilt only the char of Kalka dravya was seen which was scraped and kept aside.

C] Collection

Collection was done in two steps. Primarily, the brushing and dry trituration of the Kalka was done from which

314 g of Parada was retrieved. In the next step, through hot water washing 16 g of Parada was obtained.

Table 4: Amount of Parada retrieved from various methods.

Collection Method	Obtained Quantity
Dry trituration	314 g
Hot water washing	16 g
Total	330 g

PRACTICAL 3: TIRYAKPATANA SAMSKARA**Attempt 1: (Unsuccessful)**

A] Ingredients: Adhahapatita Parada only.

Table 4: Ingredients with Quantity.

Ingredients	Quantity
Adhahapatita Parada (Hydrargyrum/Mercury)	330 g

B] Method

- i. A 7" circumference wide mouthed mud pot weighing nearly 2500g was selected.
- ii. A 2 feet long, 1" diameter, 16 gauge stainless steel pipe was taken and bent a little at one end.
- iii. The pipe was then welded to a half inch thick stainless steel 7" diameter plate in the centre from the bent end of the pipe.
- iv. Sandhibandhana with Kapadmitti was done between the pipe setup and mouth of the pot and kept on the stove little tilted "Photo. 13" as per the reference.
- v. The other end of the pipe was kept immersed in the cold water filled glass bottle and stove was switched on.
- vi. Within first few minutes itself few air bubbles were seen in the glass bottle and the pot broke with spillage of the Parada around the setup.
- vii. The spilled Parada was then carefully collected again up to 324g with minimum loss of 6g.

Attempt 2: (Semi-successful)

A] Ingredients: Adhahapatita Parada only.

Table 5: Ingredients with Quantity.

Ingredients	Quantity
Adhahapatita Parada (Hydrargyrum/Mercury)	324 g

B] Method

- i. After failure in the first attempt, little more digging of information regarding the procedure was done.-
- ii. Then under the guidance of the faculty members the following changes were thought of: (a) fresh mud pot should be selected with 3 layers of Kapadmitti, (b) both the ends of pipe should be bent, (c) the pot should be kept straight, (d) the pot should be kept in Valuka and (e) the other end of the pipe should be out of water but near to the water surface.
- iii. All the changes were done and new set-up was placed again "Photo. 14".
- iv. The Kramagni was given for 3 Yama (9 hours) as minimum duration told for Tiryak Patana Samskaravadhi is so^[11] but nothing was seen in the collection jar.
- v. The stove was switched off and on the next day after Swangasheeta the Sandhibandhana was removed.
- vi. Parada was seen adhered on the inner surface of the steel plate used to cover the mud pot along with few particles at the initial part of the pipe and some in the middle part of the pipe but hadn't reached the other end of the pipe because the outlet of the pipe was at a comparatively higher position than the main mud pot in which Parada was placed.
- vii. Parada globules were also seen adhered throughout the inner surface of the pot up to a level little higher than the bottom of pot but below to the Sandhibandhana.
- viii. After attaining this partial advancement from previous attempt, the Parada was carefully collected back with loss of 88g which may be due to new pot and Parada entering within Sukshma pores of the pot.

Attempt 3: (Successful)

A] Ingredients: Adhahapatita Parada only.

Table 6: Ingredients with Quantity.

Ingredients	Quantity
Adhapatita Parada (Hydrargyrum/Mercury)	236 g

B] Method

- i. After incomplete and half success in the previous two successive attempts; efforts were made for in depth understanding of the Patana Vidhi was and as a result, in the third attempt a whole new set-up was adopted.
- ii. After understanding the required ratio for Tiryak Patana vessel and Parada taken for Patana from Parada Darpana^[12] the Yantra Nirmana was done and constructed out of stainless steel.
- iii. Two stainless steel pots with 6” diameter circumference weighing 440g each and having volume capacity around 500ml was taken.
- iv. Cross-sectional TIG welding was done of 2 feet long, 0.75” diameter stainless steel pipe’s one end at the neck of one vessel and the other end of the pipe was welded as it is in circular shape at the neck of another steel pot in a way that the whole set up had both pots at different levels of height and where the Parada containing pot was at an upper level than the receiving pot “Photo. 15”.
- v. Parada was placed in the upper pot, the lower pot was left empty and mouth of both the pots were closed with 6” diameter and half inch thick stainless-steel plates and Sandhibandhana with 6 layers of Kora cloth and Multani Mitti was completed.
- vi. Due to smaller size steel pots, the whole set up was decided to be placed on the regular domestic cooking stove on a medium to full flame.
- vii. The lower pot was decided to be kept in a broad steel vessel filled with cold water.
- viii. Ice cold water was poured in the broader outer vessel along with addition of ice as and when required to ensure the very low temperature of outer surface of the receiving pot so as to condense Parada vapours and hence its collection.
- ix. Agni was given for 6 hours and after Swangasheeta on the next day, the pots were opened.
- x. Parada was found as one whole liquid substance in the receiver pot which was taken out in a bowl with the help of steel spoon “Photo. 16”.
- xi. Very few minute globules of Parada were seen adhered to the Tiryak Nalika which were collected by pouring of Ushna Jala by force and pressure flow of tap water directly into the pipe.

Table 7: Heating pattern with observations.

Time	Temperature (with digital thermal gun)		Observations
	Heating Pot	Receiver Pot	
09:30 AM	24°C	14°C	---
09:35 AM	140°C-95°C- 65°C	14°C	---
10:32 AM	220°C-120°C-126°C	18°C	* Little blackening of lower edges of Sandhibandhana cloth * Dew drops on the outer surface of lower pot kept in water * Tiryak Nalika – warm towards upper end (28°C) and cold towards lower end (19°C)
11:35 AM	340°C-207°C-216°C	23°C	* Slight increased flame * Boiling and ‘Chat-Chat’ sound inside the upper pot * More blackening of Sandhibandhana cloth with burning smell
11:39 AM	---	---	* Droplet like ‘Tap-Tap’ sound heard in the empty receiver pot
11: 54 AM	---	---	* Increased flame & added ice in the water surrounding receiving pot
12:08 PM	---	18°C	---
12:15 PM	413°C-209°C-234°C	19°C	---
12:31 PM	394°C-224°C-256°C	21°C	* More blackening of the Sandhibandhana cloth with burnt smell * Bottom of heating vessel had a colour change into Mayurchandrika Varna + Tamra Varna * Tiryak Nalika – Hot at upper end (138°C) and cold at lower end (22°C)
13:10 PM	---	10°C	* Complete cold-water change surrounding

			the collection pot
13:17 PM	---	---	* Gas burner knob turned on full potential
13:57 PM	---	---	* No sound in either pot (mostly due to complete shift of Parada, still heat was continued)
14:00 PM	---	---	* Change of gas cylinder with the thought to give more pressured fuel gas for Tivragni
14:30 PM	452°C-293°C-272°C	22°C	* Full blackening of Sandhibandhana cloth, no burning smell * Vessel colour change into Tamra Varna at upper half and Mayurachandrika Varna at bottom
15:12 PM	426°C-312°C-294°C	22.5°C	---
15:31 PM	331°C-228°C-187°C	22.5°C	---

(Note: Temperatures mentioned of the heating pot are in respective order of Lowest-Middle-uppermost part and that of the receiver pot is at the mid region just above outer water margin).

C] Collection

Collection was done in two steps. Primarily, the Parada was collected directly with the help of spoon from which

229 g of Parada was retrieved. In the next step, through repeated water washings of mixture of Parada and Multani mitti 1 g of Parada was obtained.

Table 8: Amount of Parada retrieved from various methods.

Collection Method	Obtained Quantity
Direct spoon collection	229 g
Jala Prakshalana	1 g
Total	230 g



Photo. 1 Tapta Svarnamakshika.



Photo. 2 Vara Kwatha Avapa.



Photo. 3 Tuttha Swedana in Gomutra.



Photo. 4 Homogeneous mix after Swedana.



Photo. 5 Modified Tapta Khalva.



Photo. 6 Parada+Svarnamakshika+Tuttha Pishti.



Photo. 7 Urdhvatana Samskara.



Photo. 8 Collected Parada inside Urdhva Bhand.



Photo. 9 Adhaha Patana Pishti starting.



Photo. 10 Nashtapishta Parada Pishti for Adhahpatana.



Photo. 11 Adhahpatana Samskara.

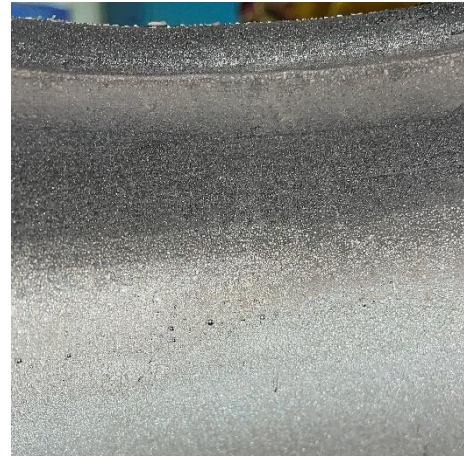


Photo. 12 Pearl like Parada inside Adhah Bhandha.



Photo. 13 Tiryak Patana setup: Attempt 1.



Photo. 14 Tiryak Patana setup: Attempt 2.



Photo. 15 Tiryak Patana setup: Attempt 3.



Photo. 16 Received Drava Parada in Adha Bhandha.

DISCUSSION

Raw Drugs: First time ever in the series of Ashta Samskara Khanija Dravya are mentioned in the form of Svarna Makshika and Tuttha for Mardana and Pishtikarana for Urdhvapatana Samskara whereas, in Tiryakpatana Samskara the Parada alone is subjected for Tiryak Gati.

Shodhana for Khanija Dravya and Changes observed: For the Shodhana of Svarna Makshika Nirvapa method with Triphala Kwatha was adopted. For the preparation of Triphala Kwatha ratio with 1:8 and reduced to 1/8th remaining was taken.

As there is no mentioning of number of times of Nirvapa to be done, and the desired form is Sukshma Churna of Makshika for the Pishtikarana which requires brittleness, the multiplications of 7 was considered and 21 times of

Nirvapa was done, then Makshika was pounded and sieved to attain Sukshma Churna.

Tuttha Shodhana was done with Gomutra Swedana Vidhi for 3 Yama (9 hours) in total. Since, the acquirement of Gomutra was less, Dola Yantra was converted into Valuka Dola Yantra for steady heating in Mruduagni and 9 hours were achieved in two batches of 5 and 4 hours on consecutive days.

One whole Khanda of Tuttha was placed in the Pottali for Swedana and after the Vidhi whole Tuttha had melted and become one with Mutra making a layer at the bottom of the vessel. It was kept for sun drying and after 4 days the layer was scraped, pounded and stored. Here, because of Mutra medium, final Shushka Tuttha Churna was more in weight than the initially taken raw Tuttha.

Ratio of Raw Drugs for Pishtikarana: There is no specific ratio mentioned for the Khanija or Kashtha Aushadha Dravya for Pishtikarana so all of them were taken as 1/16th of Parada as per Anuktamana Niyama.

Physical Changes: After the Urdhvapatana Samskara, Chanchalatva had decreased in Parada when compared with Utthapita Parada. Furthermore, the Parada was found Ati Sheetala in Sparsha after completion of Adhah Patana.

Duration for Nashtapishtava: A total of 12 hour was required to attain a homogenous mixture during Pishtikarana done for Urdhvapatana Samskara. Here, the long duration needed was understood as the effect of presence of Khanija Dravya whereas Parada required just 4 Ghati (96 minutes) for complete Nashtapishtava when Mardana was done with Kashthadravya for Adhah Patana Samskara.

Drava Dravya for Pishtikarana: In the Urdhvapatana Samskara Pishtikarana, there is no mentioning of Drava Dravya in the main Sutra or Teeka but clue is given by the author of Bharata Bhaishajya Ratnakara where the Kumari Rasa use has been told in Hindi part and since the mixture had to be in the form of Lepa for application in the Adhah Bhandra for Urdhvapatana, that reference was followed.^[13]

Duration for Agni Samyoga: Since, there has not been any clear indication for the duration and type of Agni in the main Sutra, cross references were taken across Rasagrantha from Samskara Prakarana Sutra and their Teeka.

That is how Kramagni of 4 Yama (12 hours) for Urdhvapatana^[14], Madhyamaagni of 2 Yama (6 hours) for Adhah Patana^[15] were finalised. When it comes to Tiryak Patana it is said that the procedure should be continued until all Parada comes to the other pot. Considering less quantity of Parada 2 Yama (6 hours) Paka was undertaken as per the Tiryak Patana Yantra

Vidhi^[16] and was decided to be given in Kramagni as per the Teeka of Ayurveda Prakasha.^[8] However, after opening the pots and seeing a few globules of Parada on the plate of upper pot, it can be inferred that even intense heat is required for the Tivragni.

Additionally, the Teekakara in the Ayurveda Prakasha has said to give Kukkuta Puta or minimum 20 Jungali(wild) Vanyopala heat for Adhah Patana^[7] and hence the temperature range between 400-600°C was maintained.

Reasons for Sudden Loss in more quantity of Parada during Patana Samskara: In the first four Samskara, Parada yield was consistent between 90-95% of previous Samskara but after Urdhvapatana the yield suddenly dropped to 61% of Utthapita Parada, then after Adhah Patana it was 77% of Urdhvapatita Parada, and later it was 97.25% of Adhahpatita Parada when Tiryak Patana was completed leading us to an understanding of becoming more Dosha Rahita.

When analysis was done, the most reasonable answers for such sudden loss were first: usage of Mrit Patra (as its pores contained shiny particles even after brushing and scraping showing unremovable Parada), second: adulteration with Naga and Vanga (mainly after the Urdhvapatana greyish very light weight and Ati Sukshma Bhasma Swaroopa Churna was found suggesting other possible combinations like Tamra with Naga, Vanga and this with Parada) and third: because of some undesired complications as well mentioned below.

Unwanted Hurdles and Tackling: At the time of Urdhvapatana Samskara, after 10 hours of Paka a little crack sound was heard but nothing was found evidently and therefore was not given much attention. Next day after Swanga Sheeta when the Damaru Yantra was lifted Parada globules were seen on the stove burner indicated a crack at the bottom pot which might have been an escaping route for Parada leading to sudden huge loss.

Similar obstacle came during Adhah Patana Samskara as well, where after 1.5-2 hours of Paka a hole was observed on a side of the Urdhva pot and it started increasing in size. So, to avoid loss and complete the Samskara, a small Mrit Sharava was placed on the hole and Sandhibandhana was done with Multani Mitti layer by layer but still a little gap was seen at the bottom edge suggesting a possible way for Parada breakout.

In Tiryak Patana Samskara, the Yantra Nirmanam itself was the most serious hurdle which was overcome with a complete stainless-steel setup after 2 failed attempts done using Mrit Patra.

From all the above discussions, it may be put forth that repeated usage of used mud pots, contact of hot mud pot with cold water makes them vulnerable and lead to their breakage.

Jala source: Source of Jala and the temperature variation because of it plays a vital role in the collection and adherence of Parada at the cooler end. For Urdhvapatana Samskara, Nirantara Ardra Vastra^[17] and ice pieces were placed continuously instead of Toyadhara.

Usually, Adhah Patana Yantra requires Jala in the Adhah Ghata. But as the Sanskrit Teeka^[7] in Ayurveda Prakasha says it is their Sampradaya Viruddha and suggests to let the lower pot be left empty and keep the Patana Yantra in the Panka Garta (pit of mud quagmire). Ergo, it was proceeded with.

Similarly, opinions vary for Tiryak Patana Yantra as: water put inside the receiver pot before Sandhibandhana, water continuously poured on the receiver pot and empty receiver pot kept in the vessel containing cold water.^[18] For all intents and purposes, the options are to bring about the temperature difference and here the third option was followed.

CONCLUSION

At the end of Trividha Patana Samskara, final weight of Parada obtained was 230g (collectively 32%) with initial weight of Parada being 710g. These practicals gave hint towards the importance of construction of Yantra from sustainable inert materials for repetitive usage and more yield.

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