Pharmaceutical Standardization

Preparation of Dhatryarishta by Dhatri Swarasa and Dhatri Kwatha

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Abstract

Dhatryarishta has been described for the first time in Charaka Samhita, in the context of Panduura. The same reference is available in Chakradatta, Bhaishajya Rattnavali, and Sahastrayogam too. Generally Dhatri Swarasa [Amalaki (Emblica officinalis Gaertn.)] is used in the preparation of Dhatryarishta as per classical reference, but fresh Amalaki is not available in every season, so in the present study, Amalaki Kwatha (decoction) is used instead of Swarasa. A total of 13 batches of Dhatryarishta were prepared, out of which nine batches were prepared with Dhatri Swarasa and four batches with Dhatri Kwatha. For Dhatryarishta prepared by using Dhatri Swarasa, three methods were applied and in Dhatryarishta prepared by using Dhatri Kwatha two methods were applied. The study revealed that Dhatryarishta could only be prepared by using Amalaki Swarasa as quoted in the classics and not by using Amalaki Kwatha.

Key words: Dhatri, Dhatryarishta, Kwatha, Panduura, Swarasa

Introduction

Amalaki (Emblica officinalis Gaertn.) has been described in Phalasava and Sarkara as a separate Asava yoni by Acharya Charaka.[1] Asava yoni itself denotes the fermenting base for Asava-Arishtas. Dhatryarishta is indicated in the context of Panduura in Charaka Samhita Chikitsasathan.[2] The same reference is available in Chakradatta,[3] Bhaishajya Rattnavali,[4] and Sahastrayogam[5] in Arshitapakaran.

Dhatri Swarasa (Juice), Madhu (Honey); one-eighth of Swarasa, Krishna (Pippali) half Kudava, (96 g), and Sarkara (Sugar) half Tula, (2.4 kg) are the four ingredients of Dhatryarishta as per classic method. As fresh Amalaki is not available in all the seasons, the present study is carried out to establish the preparation of Dhatryarishta by Dhatri Swarasa and Kwatha.

Aims and objectives

• To prepare the Dhatryarishta by using Dhatri (Amalaki) Swarasa and Kwatha.

Materials and Methods

In the present study two samples of Dhatryarishta were prepared by using Dhatri (Amalaki) Swarasa and Kwatha.

Preparation of Dhatryarishta by Amalaki Swarasa

The ingredients of Dhatryarishta and their quantity are shown in Tables 1-3. In present study, first sample was prepared by three methods: First method: Dhatryarishta was prepared by Swarasa of Amalaki as per textual reference. Second method: Dhatryarishta was prepared by Swarasa of Amalaki in which Sarkara (Sugar) was added at one-tenth to the weight of Amalaki. Third method: Dhatryarishta was prepared by Swarasa of Amalaki in which Sarkara (Sugar) was added at one-tenth the weight of Swarasa obtained from Amalaki.

Procedure

Fresh Amalaki (Emblica officinalis Gaertn.) was selected from the market. Then it was washed with tap water and later cleaned with a dry cotton cloth. The cleaned Amalaki were cut into small pieces and the seeds were removed. Pieces of Amalaki were crushed with the mixer grinder and then squeezed through a cotton cloth. The results obtained are shown in Table 4.
Pippali (Piper longum Linn.) was dried in shade, and physical impurities were removed; fine powder was made using the mixer grinder and sieved through mesh number 85.

The fermenting vessels (china clay jar) were properly washed with sufficient quantity of warm water. After cleaning, the vessels were properly dried in sunlight to avoid any contamination. Dried vessels were subjected to Dhoopana (Fumigation) for 20 minutes with drugs of Guggulu (Commiphora mukul Hook.), Maricha (Piper nigrum Linn.), Vacha (Acorus calamus Linn.), and Jatamansi (Nordostachys jatamansi DC).

Madhu (Honey) was added (one-eighth portion) to Amalaki Swarasa (Juice) and specified quantity of Sugar (Sarkara) was added to the solution and with a stirrer. To this solution, specified quantity of Prakshepadravya was added and mixed well, till it become homogenous.

Proper initiation of fermentation was checked by regular examination on the first day. Following that examination was done at every five-day interval, after determination of fermentation, without disturbing the fermenting media. The china clay vessel was tightly sealed with a cloth smeared with mud (Multani Mitti). The vessels were placed in a clean, dry wooden chamber, so as to resist direct exposure to sunlight, air, and variation in the atmospheric temperature. Artificial regulation of the temperature was done with the help of an electric bulb (100 W) inside the chamber, during the winter season.

After completion of the fermentation process, the supernatant fluid was filtered through a double folded cotton cloth in to another jar. The marc that remained at the bottom of the vessel was discarded.

The yield material (Arishta) collected was allowed to mature for 30 days. After maturation, the Arishta was again filtered through a double folded cotton cloth for separating the suspended particles and getting the clear fluid (Arishta). The final product was then packed in plastic bottles and properly labeled, showing the full information about the formulation. The details of the first, second, and third methods of different batches are shown in Tables 5-7.

**Observations**

Before the onset of fermentation; after mixing Madhu, Pippali, and Sarkara, no change in color in Swarasa was seen. Prakshepadravya was floating over the surface of the liquid. Initially the Prakshepadravya had a tendency to aggregate over the surface of the fermenting media, which was wetted and mixed by stirring. After the onset of fermentation, it was started from the third day and continued up to the seventh day. Prakshepadravya was floating on the upper layer of the liquid. There was effervescence along with a hissing sound. On completion of the fermentation, Prakshepadravya was found to have settled. The smell of the final product appeared to be alcoholic. The color of the product changed to a darker brownish color. The detailed observations are shown in Tables 8-10.

**Precaution**

Before use, all the utensils were sterilized by washing with hot water and heating. Amalaki swarasa was filtered through a double folded cotton cloth. Proper sanitation was maintained during the pharmaceutical procedure. Proper space was left in the Sandhana Patra for the circulation of the liberated gas, that is, carbon-dioxide (CO₂) during the process of fermentation. The fermenting vessels were avoided from direct sunlight, air, and temperature variations during fermentation. Filtering was done by using a starch-free, clean, dry, cotton cloth. Proper labeling of the jars and bottles were done, which showed full information about the batch.

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**Table 1: Ingredients and ratio of Dhathryarishta prepared by Amalaki Swarasa (first method)**

| Ingredients  | Text ratio | Text ratio | Ratio taken |
|--------------|------------|------------|-------------|
| Amalaki (In no.) | 2000 | 2000 | 300 |
| Madhu | one-eighth | one-eighth | 300 |
| Sarkara | Half tula | 2.4 kg | 360 g |
| Pippali | Half kudava | 96 g | 14.6 g |

**Table 2: Ingredients and ratio of Dhathryarishta prepared by Amalaki Swarasa (second method)**

| Ingredients  | Text ratio | Text ratio | Ratio | Ratio taken |
|--------------|------------|------------|-------|-------------|
| Amalaki (In no.) | 2000 | 2000 | 2000 x 12 g = 24 kg | 12 kg |
| Madhu | One-eighth of Swarasa | one-eighth of Swarasa | one-eighth of Swarasa | one-eighth of Swarasa |
| Sarkara | Half tula | 2.4 kg | one-tenth of wt. of Amalaki | 1.2 kg |
| Pippali | Half kudava | 96 g | one-twenty-fifth of wt. of sugar | 48 g |

**Table 3: Ingredients and ratio of Dhathryarishta prepared by Amalaki Swarasa (third method)**

| Ingredients  | Text ratio | Text ratio | Ratio | Ratio taken |
|--------------|------------|------------|-------|-------------|
| Amalaki (In no.) | 2000 | 2000 | 2000 x 12 g = 24 kg | 12 kg |
| Madhu | one-eighth of Swarasa | one-eighth of Swarasa | one-tenth of the wt. of Amalaki Swarasa | one-tenth of the wt. of Amalaki Swarasa |
| Sarkara | Half tula | 2.4 kg | one-tenth of the wt. of Amalaki Swarasa | one-tenth of the wt. of Amalaki Swarasa |
| Pippali | Half kudava | 96 g | one-twenty-fifth of the wt. of sugar | one-twenty-fifth of the wt. of sugar |
Preparation of Dhatryarishta prepared by Dhatri Kwatha
Dhatryarishta was as per the reference of Charak Samhita Chikitsa Sthana 16/111-112. The ingredients and their quantities are shown in Tables 11 and 12. In the present study the second sample was prepared by two methods: First method: Dhatryarishta was prepared by the Kwatha of Amalaki, keeping the same ratio of Dhatryarishta, prepared by the Swarasa method. Second method: Dhatryarishta was prepared by the Kwatha of Amalaki, by following Anuktamana of Sharangdhar Samhita.[6]

Procedure
The Kwatha of Amalaki was prepared by two methods: First Batch: Prepared by dry Amalaki (Amalaki: water; 1:16 ratio) and Second Batch: Prepared by Dry Amalaki (Amalaki: water; 1:8 ratio).

Dried Amalaki was subjected to size reduction with the help of a pulverizer, up to 4 to 10 mesh size. The coarse powder drugs was mixed with the prescribed quantity of RO water, in a stainless steel vessel and subjected to overnight soaking (for 12 hours). Constant mild heat was applied to the vessel, which was sufficient to facilitate the evaporation on continuous stirring, up to the volume of the Kwatha, reduced to Astamamsa, Chaturthamsa in the first and second batches, respectively.

After a desirable reduction in volume, the Kwatha was strained with a double folded cotton cloth and collected in a separate vessel for further processing. The marc that remained above cloth was discarded. The practical details are shown in Table 13.

The remaining procedure was the same as in Dhatryarishta prepared by the Swarasa method. The practical details of Dhatryarishta prepared by Dhatri Kwatha are shown in Table 14.

Observations
Both the batches prepared by Kwatha method failed, as fungus was found to have developed on the wort.

Discussion
According to classical reference Dhatri Swarasa (Amalaki) is advocated in the preparation of Dhatryarishta, but no reference is available on using the Kwatha as the medium during the processing of Dhatryarishta. The other importance of this formulation is that there is no fermenting media like Dhatki or Madhukapushpa is mentioned. The ratio taken for Amalaki is not by weight and is taken by counting the number of Amalaki. Sweetening agents, in the formulation are, Madhu and Sarkara. Generally Asava-arishta formulations have many drugs used, such as Prakshepa, but here only one Prakshepadrayya, that is, Pippali is mentioned in the texts.

Dhatri (Amalaki) and Sarkara are mentioned as a separate Asava yoni by Acharya Charaka in Charaka Samhita. Fresh Amalaki is not available in every season, as a result, an alternative Dhatri (Amalaki) Kwatha is used instead of Swarasa; 240-250 ml of Swarasa was obtained from 330.4 g-330.6 g of Amalaki. The maximum yield of Swarasa was obtained in the month of March (Falguna), indicating full ripening of the Amalaki. This may be the reason that Acharya Charaka[7] has mentioned to enter Amalaki VANAM in the months of Pousha, Magha, and Falguna.

For preparing Dhatryarishta by classical reference, the first method, 300 Amalaki were used by counting and Swarasa was obtained from that. One-eighth honey and 360 g of Sarkara were added along with 14.6 g of Pippali Churna as Prakshepa.

Table 4: Quantity of Amalaki and Swarasa obtained after processing

| Wt. of Amalaki | 330.4 g | 330.4 g | 330.6 g |
|---------------|--------|--------|--------|
| First method  |        |        |        |
| First batch   | 240 ml | 240 ml | 250 ml |
| Second batch  | 250 ml | 250 ml | 260 ml |
| Third batch   | 250 ml | 260 ml | 260 ml |
| Fourth batch  | 250 ml | 260 ml | 260 ml |
| Fifth batch   | 250 ml | 260 ml | 260 ml |
| Second method |        |        |        |
| First batch   | 220 ml | 220 ml | 220 ml |
| Second batch  | 240 ml | 250 ml | 250 ml |
| Third method  |        |        |        |
| First batch   | 220 ml | 220 ml | 220 ml |
| Second batch  | 240 ml | 250 ml | 250 ml |

Table 5: Practical details of Dhatryarishta – first method (Classical reference)

| Month        | First batch | Second batch | Third batch | Fourth batch | Fifth batch |
|--------------|-------------|--------------|-------------|--------------|------------|
| No. of Amalaki | December | January | January | February | March |
| (Margashirha) | (Pousha) | (Pousha) | (Pousha) | (Magh)    | (Falguna) |
| Weight of Amalaki | 7.160 kg | 7.876 kg | 8.06 kg | 9.57 kg | 11.42 kg |
| Swarasa obtained | 4.020 L | 4.550 L | 5.040 L | 6.200 L | 7.690 L |
| Madhu        | 502 ml | 570 ml | 630 ml | 775 ml | 962 ml |
| Sarkara      | 360 gm | 360 gm | 360 gm | 360 gm | 360 gm |
| Pippali      | 14.6 gm | 14.6 gm | 14.6 gm | 14.6 gm | 14.6 gm |
| Wort         | 5000 ml | 5580 ml | 5840 ml | 7200 ml | 8800 ml |
| Temp.(°C)    | 22       | 22       | 22       | 24       | 28        |
| Room         | 28-30    | 28-30    | 28-30    | 28-30    | 28-30     |
| Chamber      | 28-30    | 28-30    | 28-30    | 28-30    | 28-30     |
| Final yield (L) | 4.700 | 5.000 L | 6.400 L | 8.000 L | 28        |
| Total duration (days) | 26       | 28       | 28       | 28       | 27        |
Table 6: Practical details of Dhatryarishta – second method

| Dravya                  | First batch (W-10%) | Second batch (W-10%) |
|------------------------|---------------------|----------------------|
| Month                  | October             | January              |
|                        | (Ashwin)            | (Pousha)             |
| Weight of Amalaki      | 12 kg               | 12 kg                |
| No. of Amalaki         | 611                 | 396                  |
| Swarasa obtained       | 6.820 L             | 7.640 L              |
| Sugar (Sarkara)        | 1200 gm             | 1200 gm              |
| Honey (Madhu)          | 854 ml              | 955 ml               |
|                        | of Swarasa obtained |                      |
| Pippali                | 48 gm               | 48 gm                |
| Wort                   | 8.300 L             | 9.300 L              |
| Temp (°C)              | 28-30               | 24                   |
| Starting day of        | Fifth day (after    | Fermentation         |
| fermentation           | adding yeast)       | failed               |
| Days required for      | 27 days             | -                    |
| completion             | Maturation          | 1 month              |

Note: W-10%, that is, Sarkara (sugar) 10% of weight of Amalaki was added

Table 7: Practical details of Dhatryarishta — third method

| Dravya                  | First batch (S-10%) | Second batch (S-10%) |
|------------------------|---------------------|----------------------|
| Month                  | October             | January              |
|                        | (Ashwin)            | (Pousha)             |
| Weight of Amalaki      | 12 kg               | 12 kg                |
| No. of Amalaki         | 611                 | 448                  |
| Swarasa obtained       | 6.760 L             | 7.800 L              |
| Sugar (Sarkara)        | 676 gm              | 780 gm               |
| Honey (Madhu)          | 845 ml              | 975 ml               |
| one-eighth of          |                     |                      |
| Swarasa obtained       |                     |                      |
| Pippali                | 27.04 gm            | 31.2 gm              |
| Wort                   | 8.300 L             | 9.300 L              |
| Temp (°C)              | 28-30               | 24                   |
| Starting day of        | Fourth day (after   | Fermentation         |
| fermentation           | adding yeast)       | failed               |
| Days required for      | 26 days             | -                    |
| completion             | Maturation          | One month            |

Note: S-10%, that is, Sarkara (sugar) 10% of weight of Amalaki was added

In the preparation of Dhatryarishta by the second method, Amalaki was taken in 12 kg amount, Sarkara was added at 10% of the weight of Amalaki, that is, 1.2 kg, and honey was added one-eighth of the Swarasa obtained from Amalaki, and 48 g of Pippali Churna as Prakshepa was added (one-twenty-fifth of Sarkara). The first batch did not show any fermentation even after 20 days, so to initiate it yeast was added, whereas the second batch did not show any fermentation even after 40 days, so it was considered to have failed.

For preparing Dhatryarishta by the third method, Amalaki was taken in 12 kg amount, Sarkara was added, 10% of the Swarasa obtained from Amalaki, and honey was added at one-eighth the amount of Swarasa, and Pippali was added (one-twenty-fifth part of Sarkara). The first batch did not show any fermentation even after 22 days, so to initiate it, yeast was added. The second batch did not show any fermentation even after 40 days so it was considered to have failed.

For preparing Dhatryarishta by Amalaki kwatha in the first method, dry Amalaki was taken, 3.250 kg weight, and kwhatha was prepared by taking 1:16 and 1:8 ratio of Amalaki and water, reducing to one-eighth and one-fourth ratio, respectively. One-eighth honey was added to the Kwatha and 360 g of Sarkara was added along with 14.6 g of Pippali as prakshera. Both the batches failed and fungus developed on the wort.

Vitamin C content up to 720 mg/100 g of fresh pulp and 921 mg/100 cc of pressed juice has been recorded. The dried fruit loses only 20% of its vitamin in 375 days when kept in a refrigerator, but loses 67% in the same period when stored at room temperature.[8] Along with decrease of Vitamin C, the percentage of Tannin increases, in comparison to the ratio of Vitamin C: Tannin in fresh fruit. Here the ratio of Vitamin C decreases as compared to fresh fruit. Therefore, to carry out fermentation of the desired quality, all the drug constituents have to be present at

Table 8: Observation during fermentation – Dhatryarishta first method

| Observation          | First batch | Second batch | Third batch | Fourth batch | Fifth batch |
|----------------------|-------------|--------------|-------------|--------------|-------------|
| Effervescence        | On (-ve)    | Third day    | Fifth day   | Seventh day  | Seventh day |
|                      | Off (-ve)   | Twenty-fourth day | Twenty-fourth day | Twenty-fifth day | Twenty-fifth day |
| Bubbling sound       | On          | Fifth day    | Seventh day | Eighth day   | Eighth day  |
|                      | Off         | Twenty-sixth day | Twenty-eighth day | Twenty-eighth day | Twenty-seventh day |
| Hissing sound        | On          | Third day    | Fifth day   | Seventh day  | Seventh day |
|                      | Off         | Twenty-fourth day | Twenty-fifth day | Twenty-sixth day | Twenty-fifth day |
| Burning match test   | Off (+ve)   | Fifth day    | Sixth day   | Ninth day    | Ninth day   |
|                      | On (-ve)    | Twenty-sixth day | Twenty-eighth day | Twenty-eighth day | Twenty-seventh day |
| Fermentation completion | Failed     | Successful | Successful | Successful | Successful |

Table 6: Practical details of Dhatryarishta – second method

Table 7: Practical details of Dhatryarishta — third method

Table 8: Observation during fermentation – Dhatryarishta first method
**Table 9: Details of observation during fermentation – Dhatryarishta second method**

| Observation          | First batch           | Second batch |
|----------------------|-----------------------|--------------|
| Effervescence        | On Fifth day          | -            |
|                      | Off Twenty-fifth day  | -            |
| Bubbling sound       | On Sixth day          | -            |
|                      | Off Twenty-fifth day  | -            |
| Hissing sound        | On Fifth day          | -            |
|                      | Off Twenty-sixth day  | -            |
| Burning match test   | Off(+ve) Sixth day    | -            |
| Fermentation         | On(-ve) Twenty-seventh day | Failed      |

**Table 10: Details of observation during fermentation – Dhatryarishta third method**

| Observation          | First batch (S-10%)   | Second batch (S-10%) |
|----------------------|-----------------------|----------------------|
| Effervescence        | On Fifth day          | -                    |
| Bubbling sound       | On Sixth day          | -                    |
| Hissing sound        | On Fifth day          | -                    |
|                      | Off Twenty-fourth day | -                    |
| Burning match test   | Off(+ve) Sixth day    | -                    |
| Fermentation         | On(-ve) Twenty-sixth day | Failed      |

**Table 11: Ingredients and ratio of Dhatryarishta by Kwatha (first method)**

| Name                  | Quantity |
|-----------------------|----------|
| Dhatri (Kwatha)       | 6.5 L    |
| Honey (Madhu)         | One-eighth of Kwatha |
| Pippali               | 14.6 g   |
| Sugar (Sarkara)       | 360 g    |

**Table 12: Ingredients and ratio of Dhatryarishta by Kwatha (second method)**

| Ingredients           | Text ratio | Ratio taken in batch |
|-----------------------|------------|----------------------|
| Drava                 | 12.300 L   | 6.150 L              |
| Guda                  | 4.8 kg     | 2.4 kg               |
| Madhu                 | 2.4 L      | 1.2 L                |
| Prakshepa (Pippali)   | 480 gm     | 240 gm               |

**Table 13: Practical details of Amalaki Kwatha**

| Batch                 | First method | Second method |
|-----------------------|--------------|---------------|
| Amt. of Dry Amalaki   | 3.250 kg     | 3.250 kg      |
| Quantity of water     | 52 L         | 26 L          |
| Reduced up to         | One-eighth   | One-fourth    |
| Temperature (°C)      | 30-32        | 30-32         |
| Room temp.            | 90-92        | 90-92         |
| Total yield (L)       | 6.5          | 6.5           |
| Total duration (hours)| 12.45        | 13.30         |

**Table 14: Practical details of Dhatryarishta (by Dhatri Kwatha)**

| Batch                 | First method | Second method |
|-----------------------|--------------|---------------|
| Amlalaki              | 3.250 kg     | 3.075 kg      |
| Water                 | 52 L         | 26 L          |
| Kwatha                | 6.5 L        | 6.5 L         |
| Temperature of Kwatha | 38           | 38            |
| Madhu                 | 820 ml       | 1.2 L         |
| Pippali               | 14.6 gm      | 240 g m       |
| Sarkara               | 360 gm       | 2.40 kg       |
| Wort                  | 7.100 L      | 7.240 L       |
| Result                | Failed       | Failed        |

The optimum level. Probably due to change in ratio of Vitamin C, Tannin, and other constituents in dry Amalaki, the Dhatryarishta prepared by Kwatha failed. Probably this may be the cause, and Dhatryarishta can only be prepared by Amalaki Swarasa.

Yeast most commonly found in honey is osmophilic yeast - Zygosaccharomyces, this clearly shows the source to carry out fermentation.

**Conclusion**

- The present study reveals that Dhatryarishta can be prepared by only Amalaki Swarasa as quoted in the classics and it cannot be prepared by Amalaki Kwatha.
- The maximum yield of Swarasa was obtained in the month of March (Falgun), indicating full ripening of Amalaki. This may be the reason that Acharya Charaka has mentioned to enter Amalaki Vanam in the months of Pousha, Magha, and Falgun.
- The maximum yield of Dhatryarishta was obtained in the
month of March (Falgun), which indicates that the yield of Swarasa and the months influence the study.

**Equipment specifications for Kwatha**

1. Stainless steel vessel: Size - Depth 9.5 inch
   Diameter 18 inches
   Circumference 56 inches
   Capacity 52 L
2. Stainless steel ladle: Size - length 21.5 inches
3. Gas burner with L.P.G. cylinder (14.5 kg capacity)
4. Cotton cloth: Size - 1 x 1 meter

**Equipment specifications for Arishta preparation**

1. Stainless steel vessel: Size - Depth 6.0 inch
   Diameter 10 inches
   Circumference 31 inches
   Capacity 8.0 L
2. Stainless steel ladle: Size - length 13.5 x 2.75 inches
3. Cotton cloth: Size - 1 x 1 meter
4. Porcelain Jar
   Size - Height 14.0 inches
   Circumference 50.5 inches
   Diameter of mouth 5.0 inches

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हिन्दी सारांश

धात्यारिष्ट का धात्री स्वरस एवं धात्री क्राथ से निर्माण

सुभाषचंद्र एस. मठाड़ी, बी. जे. पठ्यगिरि, पी. के. प्रजापति

धात्यारिष्ट का सर्व प्रथम उलेख चरक संहिता में पाण्डुरोग विकिल्स के संदर्भ में आया है, इसके अतिरिक्त चक्रवत्त (8/95-99), भेषजरामाली (12/120-121) एवं सहस्त्रयोगम में अर्थ प्रकरण में प्राप्त होता है। शास्त्रों के अनुसार, धात्यारिष्ट के निर्माण में धात्री स्वरस का प्रयोग किया जाता है, किन्तु धात्रीवर्धक वर्ष पर्यत उपलब्ध नहीं होने के कारण अध्ययन में वैकल्पिक आधार पर शुष्क धात्रीवर्धक से निर्मित क्राथ का प्रयोग किया गया। धात्यारिष्ट के कुल 13 वें अंक का निर्माण किया गया। इसमें से 9 वें अंक का निर्माण स्वरस के ब्रह्म कथा 8 वें का निर्माण क्राथ के ब्रह्म कथा किया गया। धात्यारिष्ट का स्वरस के ब्रह्म अंक 2 विधियों का प्रयोग किया गया तथा क्राथ द्वारा एक गुण निर्माण में 2 विधियों का प्रयोग किया गया। उपर्युक्त अध्ययन यह दर्शाता है कि धात्यारिष्ट का निर्माण केवल स्वरस के ब्रह्म संभव है।