



PREPARATION OF PATHYADI CHOORNA: AN AYURVEDIC FORMULATION FOR KAPHAJA KASA

Dr. Sreeraj. R

Ph.D Scholar, Department of Kaumarabhritya, P.D.E.A College of Ayurveda and Research Center, Nigdi, Pune, Maharashtra & Associate Professor, K.J. Institute of Ayurveda and Research, Savli, Vadodara, Gujarat.

Dr Madhavi S Deodas

Professor & H.O.D, Department of Kaumarabhritya, P.D.E.A College of Ayurveda and Research Center, Nigdi, Pune, Maharashtra.

ABSTRACT Kasa is a disease in which there is production of voice like broken Vessel. Life span of a human being is divided into three phases namely Balya Avastha, Madhyama Avastha and Jeerna Avastha. Each phase is predominant of specific doshas, among these Kapha is having predominance during childhood. Children having Kapha predominant body and indulging in Kaphakara Aahara (food) and Vihara (activities) increases the incidence of Kaphaja Kasa. Choorna Kalpana is one among the most predominantly used Ayurvedic Pharmaceutical preparation. It is a fine powder of herbs or group of herbs Pathyadi Choorna is a herbal preparation mentioned in Ayurvedic Classics for the management of Kaphaja Kasa. The formulation Pathyadi Choorna contains Pathya, Tamalaki, Dhatri, Bhadra-Mustha and Pippali. This Formulation was prepared according to the principles of preparation of Choorna Kalpana mentioned in the Ayurvedic classics and by using modern pharmaceutical equipments. In this article, details of the individual drugs of Pathyadi choorna and the method of preparation of the formulation have been detailed.

KEYWORDS : Kasa, Pathyadi Choorna, Pharmaceutical, and Kaphaja Kasa.

INTRODUCTION

Kasa is a disease in which there is production of voice like broken brace Vessel.¹ Life span of a human being is divided into three phases namely Balya Avastha, Madhyama Avastha and Jeerna Avastha.² Each phase is predominant of specific doshas, among these Kapha is having predominance during childhood.³ Kaphaja Kasa is one among the five varieties of Kasa. Specific etiologies of Kaphaja Kasa are Guru, Abhishyandi, Madhura, Snigdha, Swapna and Vicheshtana. These factors result in the vitiation of Kapha which creates an obstruction for the movement of Vata resulting in Kaphaja Kasa.⁴ Children being the building blocks of the nation as well as the most vulnerable group in the community, requires to be handled with almost care and concern.⁵

In Charaka Samhitha, Chikitsa sthana, Kasachikitsadhyaya, Kaphaja Kasahara Yogas are mentioned. Four yogas are mentioned out of which this mentioned yoga is second one. First drug in this yoga is Pathya. Hence it is named as "Pathyadi Choorna". It is mentioned for the management of Kaphaja kasa.⁶ Choorna Kalpana is one such widely used preparation which is an Upakalpana of Kalka Kalpana.⁷ Pathyadi choorna contains Pathya, Tamalaki, Dhatri, Bhadra-Mustha and Pippali. The Formulation Pathyadi Choorna contains one part each of 5 Herbal drugs and Honey as Anupana and is an active amalgamation for the treatment of Kaphaja Kasa or cough. This article highlights the different ingredients and the method of preparation of Pathyadi Choorna.

MATERIALS AND METHODS

Ingredients of the formulation are

1. Pathya (*Terminalia Chebula Retz*)
2. Tamalaki (*Phyllanthus niruri*)
3. Dhatri (*Emblica officinalis Gaertn*)
4. Bhadra-Mustha (*Cyperus rotundus Linn*)
5. Pippali (*Piper Longum Linn*)

Pathya (*Terminalia Chebula RetZ*)⁸

Well known by name Chebulik myrobalan. It is a large tree and belongs to combretaceae family with rust-colored or silvery hairs over the younger branch lets. Leaves- mostly sub opposite, distant, ovate or oblong-ovate, 8-20 cm long, deciduous in the cold season. Flowers- dull white or yellowish, with a strong offensive smell, in spikes from the upper axis and in small terminal panicles. Fruits-ovoid or ellipsoidal from the upper axis and in small terminal panicles. Fruits-ovoid or ellipsoidal from a broad base, glabrous, more or less 5-ribbed when dry.

Chebolic myrobalan is an important source for Tannin. It contains up to 32% of Tannin (Hydrolysable) and on hydrolysis yield chebolic acid and d-galloyl glucose. Other constituents include Cheblagic acid, Chebulinic acid, gallic acid, Sorbitol, ethyl gallate, Punicalagin terflavin.A, Terchebin.⁹

Useful Parts: Fruit rind

Ayurvedic properties

Rasa: Kashaya, Madhura, Amla, Katu Tikta (Pancharasa)

Guna: Laghu Ruksha

Veerya: Ushna

Vipaka: Madhura

Doshaghnata: Tridosha Shamaka

Rogaghnata: Vatavyadhi, Shotha, Vrana, Mukha roga, Kantha Roga, Nadi Daurbalya, Mastishka Daurbalya, Netra Abhishyanda. Drishti Mandhya, Indriya Daurbalya, Agni mandya and shola.

Tamalaki (*Phyllanthus Niruri*)¹⁰

It is a small erect herb possessing yellowish green flowers belongs to Euphorbiaceae family. Caraka emphasized its role in respiratory disorders by mentioning it under Svasahara and Kasa hara groups.

Phyllanthin, hypophyllanthin, niranthin, nirtetralin, phylltetralin, lintetralin, phyllnirurin, nirphyllin.

Useful Parts: Whole plant, Root

Ayurvedic Properties

Rasa: Tikta, Kashaya, Madhura

Guna: Laghu Ruksha

Veerya: Sheeta

Vipaka: Madhura

Doshaghnata: Kapha-Pitta hara, Rochana

Rogaghnata: Kasa-Svasa, Prameha, Raktapitta, Kamala

Dhatri (*Emblica Officinalis Gaertn*)¹¹

Well known by name *Emblica officinalis*, Family-Euphorbiaceae. A deciduous small or middle-sized tree with crooked trunk and spreading branches. Branchlets glabrous or finely pubescent, 10-20 cm long, often deciduous. Dried fruit is globular, subhexagonal, upto 1.5 cm in diameter, with a wrinkled surface of yellowish brown or greyish black colour. The fruit breaks easily, exposing a section of dried pulp and nut which contains triangular seeds of yellowish brown colour. Fresh fruit is globular, fleshy, obscurely six lobed and measures 2 to 3 cm in diameter. The surface is smooth and pale or yellowish green in colour. The fruits contain a juicy pulp enclosing an obtusely obovate, Triangular, 3 celled nut, containing two seeds in each cell.

Fruit: Ellagic acid, Amlaic acid, Phyllantine, Phyllantidine, Zeatin, Zeatin nucleotide, Zeatin riboside, Benzenoid, Chebulic acid, Chebulinic acid, Chebulagic acid, Gallic acid, Ethyl galate, b-glucogatin, Digallic acid, Emblicol, Phyllemblac acid, Ascorbic acid, Triterpene, Lupiol, Phyllemblin, Flavonoid, Kaempferol, Rutin, b-Sitosterol, Tanin (28%), Carbohydrates, Protein, Fat, Calcium.

Useful Parts: Phala (Fruit)

Ayurvedic Properties

Rasa: Amlapradhana lavana varjita pancarasa

Guna: Ruksha, Laghu, Sara

Veerya: Sita

Vipaka: Madhura

Doshagnata: Tridosahara

- Vatahara because of Amla Rasa
- Pittahara because of Sheeta Veerya and Madhura Vipaka
- Kaphara because of Ruksha guna and Kashaya Rasa

Rogagnata: As a Rasayana, Pramehaghna, Jwaraghna, Vrishya, Dahahara, Chardighna, Sophaghna, Rucya, Medohara, Bhagna Sandhanakara, Keshya, Chakshushya, Kushthaghna

Bhadra-Mustha (Cyperus Rotundus Linn)

It is perennial slender herb belongs to Cyperaceae family. Tubers of Musta (Cyperus rotundus) is hard, Ovoid and sometimes elongated, with a wiry stolon attached to the tips, up to 5 cm long and 1 cm in diameter at the thickest part. Surface is dark brown or Black in colour with a number of annular ridges densely clothed with root hair. A transversely cut portion shows a mealy flesh colored surface, differentiated into an outer cortex and a central core region with a number of dotlike structures representing Vascular bundles. It is very difficult to break and if broken also then becomes very small piece. Has got strong aromatic odour and bitter in taste.¹²

Tubers yielded cyperene, b-selinine, cypernone, Keto-alcohols, a-rotonol, b-rotonol, essential oil which contains pinene, cineol, linolenic, linolic, oleic, myristic acid, steroic acid and glycerol

Useful Parts: Kanda (Tuber)

Ayurvedic Properties

Rasa: Tikta, Katu, Kashaya

Guna: Laghu, Ruksha

Veerya: Sita

Vipaka: Katu

Doshagnata: Pitta kaphashamaka

- Pitta shamaka due to its sita veerya and Tikta Kashaya rasa
- Kapha Shamaka because of Katu Vipaka and Tikta Kashaya, Katu rasa

Rogagnata: Sitagrahi, Jwaraghna, Trishnahara, Rocaka, Krimighna, Atisaraghna, Pachaka and Dipana.

Pippali (Piper Longum Linn)

It belongs to Piperaceae family. It is Ascending or prostrate climber.

Fruit: Big variety pippali has straight blunt spikes of grayish brown colour measuring 3 to 4 cm in length and upto 8mm in diameter. The spike is composed of minute baccate fruits closely packed around a common axis. The spikes are often supported by a short stalk. Easily breaks, has got very strong and spicy odour, taste is pungent.

Short variety is less than 2 cm long and upto 5 mm in diameter, having a rough body surface with dark brown or greenish black color. It has got strong and spicy odour.

Root: Transversely cut pieces of root is 0.5 to 1 cm thick, sometimes branched in Zigzag fashion. On breaking becomes short pieces or powdery. Odour is Characteristic and very strong and taste is pungent.

Fruit yielded Piperine, Piplartine, Pipernonaline, Piperondecaldine, n-hexadecane, n-heptadecane, n-octadecane, n-nonadecane, n-eicosene, a-thujene, Zingiberene, P-cymene and Terpinolene. Root yielded piperine, Piperlongumine and Piperlunguminine.¹³

Useful Parts: Fruit

Ayurvedic Properties

Rasa: Katu

Guna: Tikshna Laghu Snigdha

Veerya: Anushna

Vipaka: Madhura

Doshagnata: Kaphavata Shamaka, Kaphahara due to Katurasa and Vatasamaka because of Madhura Vipaka

Rogagnata: Deepana, Rasayana, Virshya, Rechaka, Swasahara, Kasahara, Jwarahara, Kushtaghna, Pramehahara, Arshoghna, Sulanashaka.

Collection and Authentication of Raw Drugs

All the above-mentioned drugs were collected from K. Raghavan and

Sons, Karunagapally, Kerala and Raw drug is identified by Pharmacognosist and Authentication of the medicine by Medical officer and choorna finally powdered and sieved and packed by Vagbhada Ayurveda Chikitsa Kendra, Karunagapally and the drug analysis and standardization were done at CARE Kerala, Kondotty, Thrishur.

Apparatus Used for the Preparation

Impact pulverizer: It is used for size reduction of the drugs

Tray driers: For drying the herbs and powder

Mass Mixers: For mixing the powders

Method of Choorna Preparation

Pathyadi choorna was prepared by using different parts of medicinally important herbal drugs such as Fruit Pulp of Pathya (Fig 1), Whole plant or root of Tamalaki, Fruit Pulp of Dhatri, Root of Mustha (Fig 2) and Fruit Pulp of Pippali. All the herbal drugs were taken in equal quantity and was cleaned and dried properly. Later they were weighed and made into fine powder separately. The whole mixture is mixed homogeneously in a pulverizer and was filtered through sieve number 85. The Final product was carefully packed and was made ready for dispensing (Fig 3). This method of preparation of choorna is according to the Ayurvedic formulary of India.

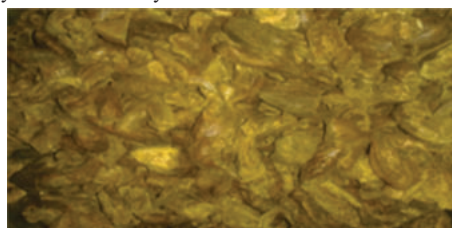


Fig 1: Pathya - Fruit



Fig 2: Mustha - Root



Fig 3: Ready For Distribution

Precautions Taken¹⁴

- All the ingredients were dried and powdered separately
- The fineness of the powder was preferably 80 mesh size per square inch or still finer.
- Powders tend to deteriorate soon due to their hygroscopic nature, hence was preserved in airtight containers. Powders which are not packed airtight will lose their potency in 2 months while well packed and preserved powders can be kept active for 1 year.

Duration of Preparation: 1 day

Organoleptic Parameters of Finished Product:

Colour: Brown in colour

Consistency: Fine powder

Smell: Characteristic smell

Taste: Characteristic taste

DISCUSSION

Hoarse phonetic sound is identification for the disease kasa. It is

produced by the morbid vata dosha and kapha dosha in the Pranavaha Srotas. The aggravating factors for this are excessive exposure to dust, smoke, pollens, cold environment and intake of Abhishyandi and Sheetha Aahara. This will increase the production of kapha and its causes the obstruction to vatagati and resulting in Kaphaja Kasa.

Cough with expectoration, throat congestion, Peenasa are the most common symptoms seen in children with Kaphaja Kasa. In Ayurvedic therapeutics, drugs are used in both forms, crude as well as processed and converted into different pharmaceutical forms. Such preparations should not only be effective but also easy to dispense, administer and agreeable to the patient. Choorna is one such form which is an allied Kalpana of Kalka. For the Preparation of choorna with multiple drugs it is advised to powder the drugs individually, because each drug differs from the other in its constituency and constituents. Hence, they are to be separately powdered and mixed together at the end only, to avoid pharmaceutical problems. Individual powdering also helps in obtaining homogeneous mixture as it facilitates through miscibility of the components.

Choorna does not require any special technique for preparation; hence it is economical compared to other pharmaceutical forms. It can be easily administered to patients who cannot swallow solid dosage forms especially in small children, who refuse to swallow solid forms and also will reduce the risk of choking. As the particle size is very minute, Choorna will get easily dissolved in the body fluids, thereby facilitating greater and quicker absorption in lesser time. Pathyadi Choorna with its unique combination of various herbal drugs, by virtue of the properties and action of the individual drugs, could be used efficiently in the management of Cough. Anupana mentioned for the medicines are Madhu.

CONCLUSION

Plants have been used for the medicinal purposes by man ever since he started to care himself. Choorna is one of the pharmaceutical preparations in Ayurveda which is convenient to prescribe in required amount. Ayurveda has been always acknowledged as providing holistic care through safer drugs and more compatibility with the physiological flora of human body. Today, according to the increasing demands, new techniques are being adopted for preparing drugs in large scale using less time and manual work. So, it is absolutely necessary to prepare and standardize the formulations mentioned in the Ayurvedic classics using modern equipment's and technologies. To keep this ancient science in pace with modern period, is essential for the propagation of Ayurveda and also in providing better health care.

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