

APPLICABILITY AND PREPARATION OF ARKA KALPANA IN AYURVEDIC PHARMACEUTICAL INDUSTRY-A CURRENT TREND

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ABSTRACT

Bhaishajya kalpana is one of the holistic branch of Ayurved primarily deals with the various pharmaceutical, neutraceutical formulation and their therapeutic application. Among the large number of formulation specified by Acharyas. Secondary dosage forms are derived from primarily through The panchavidha kashaya kalpanas which have great importance. The five basic kalpanas comprise of Swaras, Kalka, sruta, hima and Phanta. But some Acharyas has variable opinions in the respective formulary classifications. According to Ravana's Arka prakasha, The panchavidha kalpanas include Kalka, choorna, Rasa, Taila and Arka. In this context, Arka kalpana is given specific

importance and it opines that it has more potency in comparison to the other kalpanas. The potency due to dosharahithatva and its specific gunas. Due to its increased potency, reduced dose, better shelf life, easy absorption, fast action and patient compliance Arka kalpana is in growing demand among current population. So there arises a need to know the simplified procedures and methodologies involved in the preparation of this formulation which can be easily understandable and applicable both in industrial level as well as testing scientific laboratories. The pharmaceutical aspects regarding this formulation have been explained in detail with specific importance to the yantras, patras, agni and different method of preparation based on the consistency of dravyas.

KEYWORDS: Arka, Panchavidha kasaya kalpana, pharmaceutical, potency, shelf life.

INTRODUCTION

Ayurveda which is one of the oldest medical systems in the world does not mention separately about Pharmaceutics. Ayurvedic pharmaceutics are dealt under the heading of Bhaishajya Kalpana, which basically depends upon the PanchavidhaKasaya Kalpana. Besides these basic Kalpanas other types of Kalpana are developed and described by different Acharyas depending upon the method of preparation and ingredients, Arka Kalpana is one of them. There is no description about such since Samhita and sangraha period. It nothing but a collection of Unani system of medicine which is first time collected by “Ravana”. After 18th AD onward this Arka Kalpana is very much popular in Ayurveda day by day. This Kalpana is nothing but a modified combination form of hima and kwatha Kalpana among Panchavidhakasaya Kalpana. The herbal drugs which have the volatile consistency in it are preferred for this. In this process the active principles and the volatile substance of the herbal drugs are remain fresh for a long time.

The word ‘*Ru-gatau*’. Signifies three different meanings in Sanskrit literature i.e Gyan, Gamana and Prapti. The Knowledge of ingredients of arka is Gyan. The motion of contents during preparation through vaporization is Gamana and the final pharmaceutical end product obtained is termed as Prapti.

Arka Kalpana can be defined as a liquid preparation made by distillation of herbal drugs soaked in water using Arka Yantra or modern distillation apparatus.

AIMS AND OBJECTIVES

To review the method of preparation of *Arka* from the available literature in *Ayurveda*

MATERIALS AND METHODOLOGY

Instruments Required

Chulika Yantra, Kasta, Ayusadha Dravya, Sangraha patra and Yantra - Vabaka yantra, Arka yantra, Baruni yantra, Distillation apparatus

Procedure

It is prepared by distillation process of soaking the drugs in required quantity of water (according to the nature of drug) then kept in Vabaka yantra / Arka yantra /baruni yantra and placed over the mild fire. Then the Vapour collected by the aqueous media is known as Arka. The vapour get condensed and mixed together to ensure uniformity of the preparation. The

procedure must be followed in such a way that $2/3^{\text{rd}}$ of the poured liquid must be collected during Arka preparation.

Method of preparation of Arka.

Arka is Extracted from two ways -1.Wet drugs, 2. Dry drugs

Wet Drugs

If the drugs are soft and wet then 6 times of water should be added to the quantity of wet drug and extraction of Arka should be done up to 60%; if the drugs are wet and mildly hard then 8 times of water should be Added to it and extraction of Arka should be done up to 60% – 70%.

Dry drugs

If the drugs are dry and soft they need not to be crushed. At the time of extraction they should be mixed with 6-8 times of water in the Vabaka yantra and usage of mild fire for obtaining 60% -70% of arka.

If the drugs are dry and hard then these are crushed into coarse powder form and soaked in 10 times of water for overnight; in the morning it should be placed in the vabaka yantra and mild fire for obtaining 60%- 70% of arka.

If the drugs are dry and moderately hard they need not to be crushed and 8 times of water is added to it and kept for overnight and in the morning it should be placed in vabaka yantra and mild fire for obtaining 60% of arka.

Classification of Arka

According to Contents

Sthir Arka – Non volatile drugs extraction. Ex – Triphala

Gandha Arka – Fragrant or volatile oil extraction.

Drava Arka – Liquid- Liquid extraction

According to Duration of preparation

Nyun Arka – 3hrs

Madhyam Arka – 6hrs

Shreshtha Arka – 9 hrs

According to Part used

Pushp Arka, Sattu dhanya Arka, Kshiri Vriksha Arka, Visha varga Arka, Tail dhanya Arka, Sugandha gana Arka, Tandul Arka

Different Method Of Preparation of Arka

Sr.N	Type of Drug	Qty of water	Example
1	Atyanta Kathina	3parts	Chandan
2	Katina (Hard drug)	2 parts	Ajmoda
3	Sarasa Nala (stem with juice)	1/20 parts	Nirgundi, Eranda
4	Patra(Leaves)	1/100 parts	Vasa
5	Nirasa (devoid of juice)	1/20 parts	Vata, Asvatha
6	Mridu dugdhika (mild latex)	4 parts	Dugdhika
7	Tiksna dugdhika	10 parts	Satala

Precautions

Both ends of vabaka yantra are sealed tightly by mud and clay. Cool water is placed in the Upper portion of the vabaka yantra and water is changed from time to time when it gets heat (it is convenient to convert the vapour in to aqua). Pipe of yantra should be sprinkled with cold water. The fuel should be under control according to the Drugs. The Extracted Arka should be 60% of total amount of Water. If the extraction of Arka is done from the flower and leaves then chances of obstruction of path of vabaka yantra may occur. so it should be taken in cloth and put in the water of vabaka yantra. If the drugs are strong at first it should be soaked in hot water and then Arka is extracted. If the drug is mild in action then 4 times of water is added to it and kept in sunlight, when the water becomes hot then Arka is extracted by vabaka yantra. If the Arka is extracted from ripe fruits then it should be done by adding 4 times of water. In case of flower 6 time of water is to be added and extraction is done.

Characteristics of Arka

1. Arka must be clear and transparent.
2. It must have the taste of original ingredients.
3. It must have the odour of original ingredients.

Quality of unsuitable Arka

It has unpleasant odour. if it is turbid, if the taste, color and odour etc have changed.

Dosage of Arka: 12 -24 ml, 3 times.

Anupana – Along with equal amount of water

Removal of bad odour of Arka

Jeera, methi, hingu, sarsapa powder along with ghee are mixed with the Arka and put in New pot made up of mud and placed in sunlight for removal of bad odour of Arka.

Applications of Arka

Sr.no	Name of Arka	Diseases
1	Bramhi Arka	Unmada, Apasmar
2	Tulsi Arka	Kasa, Swasa, Visamajwar
3	Triphaladi Arka	Pandu, Kamala
4	Dasmuladi Arka	Pain after delivary
5	Sunthayadi Arka	Visamagni
6	Gulab Arka	Atisar, Fase wash
7	Ajmoda Arka	Udarasula, ajirna
8	Triphala + Trikatu Arka	Pandu
9	Shunthi +Haridra Arka	Agnimandya
10	Guduchi +Nimb Arka	Ammalapitta
11	Triphala +Guduchi +Madhu Arka	Kamala
12	Panduhara arka	Pandu

Storage of Arka

Arka should be stored in air tight bottle. Expose to air will lose it volatile constituents. Don't remove the oil drop from Arka because these are the desirable medicaments of the Root drugs and are medicinally important. Before using the Arka, bottle should be well shaken to mix the oil drops present in Arka. Containers used are porcelain, glass and stone etc.

Shelf life: 1-2 year.

DISCUSSION

Arka kalpana is one of the most sought after formulation in this modern age. Many number of dosage forms are being converted to *Arka* due to its reduced dose, patient compliance and increased potency.

We find many references regarding the pharmaceutic aspects of *Arka kalpana* in different literatures like A.F.I, *Ayurveda Sara Sangraha*, *Gadanigraha*, *Rasatantrasara* and *Siddha prayogasangraha* etc. A detailed explanation regarding all the aspects in the manufacture of *Arka* is seen in *Arka Prakasha* by *Ravana*.

The description of *Arka yantra* makes one to ponder on the sophistication involved in the preparation of this particular *kalpana* which has eventually led to the usage of this formulation to a minimum. Scientific advancement has made use of distillation apparatus in

the modern scenario for more convenient preparation of *Arka*. The equipments for preparing *Arka* include *Chulha*, *kastha* (Wood fuel), *Dravya*, *Patra*, *Yantra* and *Arka sangrahana patra*. Seven different types of classification of *Arka* are mentioned in different literatures. They are based on contents, part used, duration of preparation, action on *doshas*, *manogunas*, *rutus* and diseases. General method of preparation is mentioned in AFI (Ayurvedic formulary of India) and for different *Arka* precise method of preparation is also told. This is to ensure that maximum active principle came to the *Arka* according to the specific type of ingredients in it. On close examination it is observed that the *Arka yantra* told in the classics and the modern day distillation apparatus are following same principles of science i.e. Distillation which clearly states the significance of the detailed procedures explained.

CONCLUSION

In Bhaishajya Kalpana *Arka* is a very good and useful Formulation. Herbal drug having volatile nature have lose their potency within a short period. By this *Arka Kalpana* these Volatile property can be protected for 1 to 2 years. Due to palatability and quick absorption quality this *Kalpana* is popularized .So more pharmaceutical studies and research work Should be carried out.

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