



Research Article

PILOT STUDY ON PHARMACEUTICAL PROCESS OF MAMSA ARKA - A FORGOTTEN AMBROSIA

G. Siva Ram^{1*}, T. Maheshwar², G. Babu³

*1Senior Consultant (Ay), ²Research Officer (Ay), ³Assistant Director In charge, RARISD, CCRAS, New Rajiv Nagar, Vijayawada, A.P.

ABSTRACT

Arka kalpana (distillation) is a unique preparation of *Bhaishajya kalpana*. *Mamsa Arka* (meat distillate) among *Arka kalpana* is not much popular these days. It is practically forgotten and not practiced in modern Ayurveda. In classical literature *Mamsa Arka* is compared to ambrosia and best of all *Arka* formulations. Its properties are *Maha Swadu* (relishing) and *Adhika rochana* (enhances taste). It is also specifically given to certain patients having aversion to meat. Present study focuses on the pharmaceutical preparation of *Mamsa Arka* with special reference to *Arka prakasa* and performing organoleptic tests on the sample obtained. Experiment was done on a household stove to specify that *Mamsa Arka* can be prepared in small scale by the practitioner himself with ease. Simple distillation apparatus was used for the procedure. Temperature was maintained around 120° to 130° Celsius throughout the process with the help of thermometer which lasted for 1 ½ hour. The resultant distillate obtained was 1/3rd (33.3 % approx.) of the total liquid content in the mixture. *Mamsa Arka* is a colourless liquid with a specific odour dominated by *Lavanga* and *Karpura*. It is a palatable product with *Madhura* (Sweet), *Tikta* (Bitter) and slightly *Katu* (Pungent) *Rasa* (taste). *Mamsa Arka* is considered *Laghu* (light in digestion), *Balya* (strength promoting) and fast acting.

KEYWORDS: *Arka*, *Arka prakasa*, *Mamsa Arka*, distillation.

INTRODUCTION

Arka kalpana is the liquid distillate comprising of the volatile contents of liquids or solids related to crude plant materials or animal products. *Mamsa Arka* (meat distillate) among *Arka kalpana* is not much popular these days. It is practically forgotten and not practiced in modern Ayurveda. *Charaka samhita* placed *Jangala mamsa* (meat of arid climate) under the wholesome articles to be taken daily as a habit ¹. In the present day modern lifestyle meat cannot be taken daily. The lipid profile of the people is alarming as the LDL, VLDL and cholesterol levels are significantly raising. *Mamsa Arka* could be an alternate formula which may be taken regularly, hence an attempt has been made to prepare *Mamsa Arka*.

Arka prakasa is considered as a comprehensive referral book for *Arka*. *Arka kalpana* is placed under *Pancha dravya kalpa* (five pharmaceutical processes) by Ravana in *Arka prakasa* and mentioned as the most potent preparation among the five *Kalpa* ^{2,3}. Among the *Arka* formulations *Mamsa Arka* has been considered as the best preparation ⁴. *Mamsa Arka* has been quoted as ambrosia⁵ and its properties are described as *Maha Swadu* (relishing) ⁵, *Adhika rochana* (enhances taste) than ambrosia said by Lord Shiva himself ⁶. There are three types of *Mamsa Arka* – *Mridu*, *kathina* and *Ghana* ⁷. Present experimental study was carried out on *Mridu Mamsa Arka* with special reference to *Arka prakasa*. This may be the first practical attempt on *Mamsa Arka* in the contemporary field of Ayurveda.

MATERIALS AND METHODS

The following materials are purchased from local market in Vijayawada. Experiment was done at home on a household stove to specify that *Mamsa Arka* can be prepared in small scale by the practitioner himself with ease.

Materials for the preparation of *Mamsa Arka* are boneless meat 300 grams (Fig.1), *Astagandha* 6 grams each (Fig.2), Cow milk 40 ml, *Jatipushpa*: quantity sufficient, Rock salt 7.5 grams, distilled water. Equipments used are borosilicate distillation flask, condenser with pipes, cold water for condenser and thermometer.

Procedure (Fig.3)

Boneless chicken breast meat was taken in 300 grams of quantity. Meat was chopped, mixed with Rock salt 7.5 gms (1/40th part of Meat) ⁸ and thoroughly washed with distilled water. To this cleaned meat pieces, *Astagandha* coarse powder approximately 6 grams each (1/6th of Meat) and Cow Milk 40 ml approximately (1/8th part of Meat) were added ⁹. Flower petals of *Jatipushpa* (*Jasminum grandiflorum* L.) were placed over the contents. The contents were transferred to a distillation flask with sidearm. Mouth of the flask was fitted with a cork and a thermometer was inserted into the flask through the cork. The flask was fitted to a distillation apparatus and placed on a household stove. Temperature was maintained around 120°- 130° Celsius throughout the process which lasted for 1 ½ hour (90 minutes).

*Astagandha*¹⁰ includes eight drugs, namely

Sl.No.	Name	Part Used
1.	<i>Jatipatra (Myristica fragrans Houtt.)</i>	Aril
2.	<i>Lavanga (Caryophyllus aromaticus L.)</i>	Flowering Bud
3.	<i>Twak (Cinnamomum tamala Nees & Eberm.)</i>	Bark
4.	<i>Ela (Elettaria cardamomum Maton)</i>	Fruit-seeds
5.	<i>Nagakesara (Mesua ferrea L.)</i>	Flowers
6.	<i>Maricha (Piper nigrum L.)</i>	Fruit
7.	<i>Kankola (Piper cubeba L. F.)</i>	Fruit
8.	<i>Karpura (Cinnamomum camphora (L.) Presl)</i>	Exudate (extract)

RESULT (Fig.4)

The resultant distillate obtained was 90 ml which was 1/3rd (33.3 % approx.) of the total liquid content in the mixture. *Tambula (Piper betle Linn.)* or *Lavanga* is to be taken after the intake of *Arka*¹¹ as *Anupana*.

Organoleptic properties

Colour of the obtained *Arka* is colourless. Mixed scented odour dominated by *Lavanga* and *Karpura* was observed. It is a palatable product with *Madhura* (Sweet), *Tikta* (Bitter) and slightly *Katu* (Pungent) *Rasa* (taste).

DISCUSSION

Modern distillation apparatus follow same principles as *Arka yantra* described in classics. The process was done on mild temperature to ensure proper boiling of the contents and dissolution of maximum active principles. The experiment was carried out till 1/3rd of the liquid content present in the mixture was obtained in the form of distillate (Meat contains approximately 75% water). Time of *Arka kalpa* was mentioned as *Saardha yaama* (4 ½ hours), *Yaama* (3 hours), *Ardha yaama* (1 ½ hour) and *Muhurta* (45 minutes approx.) as per the quantity and quality of the ingredients. The present preparation took *Ardha Yaama* to complete¹².

Chicken Breast meat as *Mridu Mamsa* was taken in the present study as it is commonly consumed and easily available. *Kukkuta* (cock) *Mamsa* is considered as the best *Balya dravya* (strength promoting)¹³. Milk in the absence of Sugarcane juice is mentioned to be added to the mixture⁹. Milk was taken in the present study as it is easily available. *Mriga nabhi kasturi* a content of *Astagandha* is a rare and banned drug. Due to its unavailability a classical substitute *Kakola* was taken¹⁴. Flower petals of *Jatipushpa* were placed over the contents to mask the odour of meat.

CONCLUSION

Mamsa Arka is an aromatic and palatable preparation best among all *Arka kalpana* with fast acting, *Laghu* (light in digestion), *Balya* (strength promoting) properties. It is also given to certain patients having aversion to meat. Thorough analytical and clinical studies should be conducted to standardize the therapeutic dose and usage of *Mamsa Rasa*.

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*Address for correspondence

G. Siva Ram

Senior consultant (Ayu),
RARISD, CCRAS, Vijayawada, A.P.
Phone Number: 7675026175
Email ID: siva99ram@gmail.com

Mamsa Arka Preparation



Fig.1 Boneless Chicken meat Pieces



Fig.2 *Astagandha dravyas*



Arka Extraction



Condensation of *Arka* vapours



Temperature maintaining around 120^oC



Collection of *Arka*

Fig.3 *Arka* procedure



Fig.4 *Mamsa Arka*