

STANDARDISATION OF ELADICHOORNAM

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ABSTRACT: This paper deals with the standardisation of Eladhi choornam. It is a compound preparation of 6 ingredients along with sugar, viz 1. Nagakesara, 2. Maricham, 3. Twak, 4. Ela, 5. Sunti, 6. Pippali. Chromatographic technique was used for the detection of the ingredients. Different solvent systems were developed for each ingredients and spots were visualized in Iodine vapours. Presence of spots with identical Rf values in the single drugs and finished product indicate the presence of the single drugs in the finished product the parameters evolved in this stud can be considered viable for this preparation.

INTRODUCTION

Eladhi Choornam is a popular compound preparation of seven ingredients used for disease of throat, chardi, anorexia, excess excretion of saliva. Pain in the sides of chest, etc. It consists of *Nagakesara* (*Mesua ferrea*), *Maricha* (*piper nigrum*), *Twak* (*cinamom zcylicum*), *ela* (*Elattaria cardamomum*) *sunti* (*zingier officinale*) *pippali* (*Piper longum*) and sugar. In the present study and attempt as been made to standardize the choornam by chemical methods and to identify the presence of each ingredient.

MATERIALS AND METHODS

The ingredients were procured from the local raw dug traders and botanically identified. In the case of *Nagakesara*, *Cinnamomum iners reinw* is used in the place of *Mesua ferrea* and is called nagapoovu by the local drug traders, botanical identify of *Nagakesara* is *mesua ferrea*. However a study to differentiate between these two will be undertaken. Choornam was prepared in this unit under the supervision of Dr. S. Vijayalekshmi Research officer (Ay) according to the

proportion as given in Sahasraogal. The physico chemical characteristic of the choornam (Table 1) like organoleptic properties, loss on during at 110C, as content water insoluble ash, etc. were determined according to standard methods².

For comparative studies the following preparations were also made using five ingredients and omitting one in each case. Alcohol soluble extractive of choornam and other samples prepared were taken.

The steam volatiles of the finished product and other preparations were also taken. Chromatographic method was used for the identification of the ingredients, T.L.C. studies were done using silica gel G plates. A number of solvent systems were tried and those which gave best resolution were selected. Iodine vapours were used for detection.

RESULTS AND DISCUSSION

Thin layer chromatographic technique is used for the detection of ingredients in the formulation. According to this technique a

particular chemical compound will give a spot of specific Rf value in a particular solvent system. So if the extract of an ingredient and extract of formulation give a spot of same Rf in a particular solvent system, that system can be considered as a parameter for the detection of that ingredient in the formulation. This can further be confirmed by preparing the finished product omitting that particular ingredient and spotting the extract along with the extract of the ingredient and finished product if this particular spot is absent in the product prepared omitting that particular ingredient this can be considered as a confirmatory test for the detection of the single drug in the formulation. Work was proceeded based on this principle.

In this preparation two ingredients, pepper (*Piper nigrum*) and *Thippali* (*piper longum*) both contain a common constituent piperine, which is a major constituent of both. Hence to differentiate one in the presence of other, solvent systems were developed based on other constituents, to detect piperine; the solvent system developed was toluence: Ethyl acetate 7:23 Both pepper and thippli gave a spot in this system which corresponded with the spot of piperine. Alcoholic extract of *eladhi choornam* also gave this spot in this system.

In Benzene: ethyl acetate 9:1 also both piper longum and piper nigrum gave the spot to piperine Rf 0.35. In this system alcohol extract of piper nigrum, piper longum, steam distillate of finished product, and piperine were spotted, the spot of piperine was given by all the three. In addition *piper longum* gave two more spots of Rf 0.55 and 0.75. These two additional spots were given by finished product. ie *piper longum* gave 3 spots in this system of Rf 0.35, 0.55 and 0.75 and these three spots were present in the steam distillate of *eladhi choornam*. To

confirm this choornam was prepared omitting piper longum and steam distillate of this was also spotted along with the other three in this system. This extract did not give the spots given by *piper longum*. Hence this system can be considered characteristic of the drug piper longum (Table – 1).

Similar procedures was followed to detect *piper nigrum* in the presence of piper longum, in the system benzene: pet ether: ethyl alcohol 5:5:0.2, *piper nigrum* gave an additional spot of Rf 0.36, in addition to the common spots present in *piper longum* and *piper nigrum*. This spot was present in the alcohol extract of *piper nigrum*, and steam distillate of *eladhi choornam* and absent in the alcohol extract of piper longum. This spot was also missing when the steam distillate of choornam prepared omitting *piper nigrum* was spotted in this solvent system. Thus this spot of Rf 0.36 in the solvent system benzene: pet ether: ethyl alcohol 5:5:0.2 can be considered specific of *piper nigrum* and this factor can be taken as a parameter for its detection.

Nagapoovu in the *choornam* was detected using the solvent system Benzene : Ethyl acetate 4:1, and Benzene: Ethyl acetate: Ethyl alcohol 50:6:2 (U.V), spot obtained U.V. for the alcoholic extract of *Nagapoovu* was present in the alcohol extract of *eladhi choornam* but was missing in the choornam prepared omitting *nagapoovu*.

Similar procedure was followed for other ingredients and the solvent systems developed for them viz *Chukku*, *Elavarngam* and cardamom are as follows: Spots were visualized in iodine vapours.

Chukku

1. Cyclo hexane: Ethyl acetate 7:3

2. Pet ether : Acetone 8:2

Elavarngam

1. Chloroform: Methanol 4:1
2. Benzene: Ethyl acetate 4:1

Cardamom

1. Cyclohexane: Ethyl acetate 4:1
2. Toluene: Methanol 35:15

Results are given in Table II. In each case the spots obtained for the single drug was present in the financial product but was missing in the choornam prepared without the concerned dru. Thus the spots can be considered characteristic of the particular single drug and their presence confirms the presence of the drug in the finished product.

The parameters evolved above can be considered as viable for prescribing dependable standards for this preparation. Though more decisive parameters prescribed in this paper would sere the pu4pose of reasonable and dependable standa4rd for the preparation as in the se of standardisation of vacalasanadi taila (5) Thalessapatradi choornam.

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Table No 1
Detection of piper nigrum in presence of *piper longum* and vice versa

Solvent System	Piperine Rf	Alcoholic extract of pepper Rf	Eladi Choornam Rf	Choornam without pepper Rf	Choornam without Thippali Rf	Alcoholic extract of Thippali Rf
Toluene Ethylacetate 7:3	.619	.619	.619 ⁺	.619 ⁺	.619 ⁺	.619
Benzene Ethylacetate 9:1	.35	.35	.35 ⁺ .55 .75	.35 ⁺⁺ .55 .75	.35 ⁺⁺	.35 .55 .75
Pet ether* Benzene Ethanol 5:5:0.2		.36	.36 ⁺⁺⁺	Nil ⁺⁺⁺	.36 ⁺⁺⁺	Nil

* Common spots obtained were not considered

+ Alcoholic extract

++ Steam volatiles

+++ Benzene extract

Table No . II

T.L.C. Pattern of other ingredients

Alcoholic Extract	Nagappoovu				Zingiber officinale				Cinnamomum zeylanicum				Elettaria cardamomum			
	Benzene: Ethyl acetate		Benzene: Ethyl acetate		Cyclo hexane: Ethyl acetate		Pet ether: Acetone		Chloroform: Methanol		Beneone Ethyl acetate		Cyclo hexane: Ethyl acetate		Toluence: Methanol	
	No. of Spots	Rf	No. of Spots	Rf	No. of Spots	Rf	No. of Spots	Rf	No. of Spots	Rf	No. of Spots	Rf	No. of Spots	Rf	No. of Spots	Rf
Concerned drug alone	1	0.68**	1	0.58**	2	0.52 0.80	1	0.425	1	0.417	1	0.70	1	0.35	1	0.762
Eladi* Choornam	1	0.68**	1	0.58**	2	0.52 0.80	1	0.425	1	0.417	1	0.35	1	0.35	1	0.762
Choornam prepared without the concerned drug	Nil		Nil		Nil		Nil		Nil		Nil		Nil		Nil	

* Only the characteristic spots of the concerted drug alone taken into consideration.

** Spots were detected in U.V

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