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Standardization of Ayurvedic Medicated oil Udumbaradi Taila

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Abstract

With the "return to nature" call in both, the developed countries as well as developing countries there is an increase in number of people switching to the alternative system of medicine and thus it is essential that people get relevant medicines.In the present study a systemic approach has been evolved and effort has been made to develop well designed methodology for the standardization of "Udumbaradi Taila" An attempt is made to standardize Ayurvedic medicated oil with organoleptic character, physiochemical properties along with Thin layer chromatography in two different ways. The oil is prepared as per the method described in classical references and authentic literature. Udumbaradi oil is prescribed in Kaphaja yoni roga (Vulvovaginitis) in Charaka Samhita. This oil contains twelve herbal drug with base of Seasame oil which define its polyherbal nature.

Key-Words: Polyherbal oil, Standardization, Thin layer chromatography

Introduction

Now these days more and more people preffering alternative system of medicine in order to avoid the harmful side effects of the synthetic drug, it is important that they get good medicine of authentic quality. The basic lacuna in Ayurvedic and herbal formulations is the inappropriate data and methods regarding quality control and standardization techniques. To minimise batch variation and to add scientific validity to herbal formulations, it is necessary that, like all other synthetic drugs herbal drugs should also be analyzed and proper quality control techniques should be developed. Along with physiochemical assessment other techniques including TLC have been applied here to know the compound in the oil[1].

Material and Methods

The medicated oil was prepared as per the formulation mentioned in Charaka Samhita[2].

Preparation of Udumbaradi oil

All twelve ingredients of Udumbaradi taila is mentioned in Table no. 1 and drugs were collected after washing and drying along with 'Til taila' which is already to prepare as Murchita taila[3].

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Pulvarize the dried fruits of Udumbara and other Kwatha dravya in amount of 12.28 kg to a coarse powder, add specified amount of water i.e 12.28 lit. and soak it overnight. Next day filter with muslin cloth to obtain the extract.With this extract add 930 gms of Murchita Taila in a stainless steel vessel and take the other ingredients (kalka dravya) in the formulation composition, powder and pass through sieve number 85. Transfer the powdered ingredients to wet grinder and grind with sufficient quantity of water to prepare a homogenous blend(kalka) and add into oil.

Heat for 3 hours with constant stirring maintaining the temperature between 50º and 90º during the first hour of heating. Stop heating and allow to stand overnight.

Start heating next day, stir and constantly check the kalka by rolling between fingers. Stop heating when the kalka breaks down into pieces on attempting to form a varti, and at the appearance of froth over the oil[3]. Expose the varti to flame and confirm the absence of crackling sound indicating absence of moisture. Filter while hot (about 80º C) through a muslin cloth and allow to cool. Pack it in tightly closed containers to protect from light and moisture.

[Note – Above mentioned method is based on the ideal method of preparation of different formulations in API (Ayurvedic Pharmacopeia of India) [4]]

Table 1: Composition of Ayurvedic mediciated oil

S/No.	Plant Name	Botanical name	Wt.	Amt.
1.	Udumbar	*Ficus glomerata* Roxb.	Fr.	1365gm
2.	Udumbar	*Ficus glomerata* Roxb.	St. Bk.	1365gm
3.	Vata	*Ficus bengalensis* Linn.	St. Bk.	1365gm
4.	Ashwattha	*Ficus religiosa* Linn.	St. Bk.	1365 gm
5.	Parish	*Ficus rumphii* Blume.	St. Bk.	1365gm
6.	Plaksha	*Ficus lacor* Buch-ham.	St. Bk.	1365gm
7.	Kulaka	*Trichosanthes cucumarina*	Leaf	1365gm
8.	Malati	*Jasminum officinale* Linn. *forma. grandiflorum.*	Leaf	1365gm
9.	Nimba	*Azadirechta indica* A. Juss	Leaf	1365gm
10.	Laksha	*Laccifera lacca* Kerr.	Exudate	768gm
11.	Dhava	*Anogiessuss latifolia* Wall	Bark	768gm
12.	Palasha	*Butea monosperma* (Linn.) Kuntze	Bark	768gm
13.	Shalamali	*Shalmalia malabarica* Schott & Endl.	Exudate	768gm
14.	Til taila	*Sesamum indicum* Linn.	Seed oil	760ml

Note: Amount of each drug is taken as per the rule mentioned in AFI (Ayurvedic Formulary of India) [5]

Identification

Various organoleptic characters and physico-chemical parameters were studied as per standard protocols.

Thin layer Chromatography

Extract 2 gm of the sample with 20 ml of alcohol at about 40º for 3 hour. Cool separate the alcohol layer and filter. Concentrate to 5ml and carry out the thin layer chromatography. Apply 10 µl of the extract on TLC plate. Develop the plate to a distance of 8 cm using Toluene: Ethyl acetate: Hexane solution (6:3:1) as mobile phase which was already kept for few hours. After development allow the plate to dry in air and spray the plate with ethanol-sulphuric acid reagent followed by heating at 105°C for about 10 min.

Another Method applied for TLC is extract 2 gm of the sample with 20 ml of alcohol at about 40º for 3 hour. Cool separate the alcohol layer and filter. Concentrate to 5ml and carry out the thin layer chromatography. Apply 10 µl of the extract on TLC plate. Develop the plate to a distance of 8 cm using hexane: acetic acid (1:2) as mobile phase. After development, allow the plate to dry in air and spray with Anasaldehyde sulphuric acid reagent followed heating at 110°C for about 10 min.

Results and Discussion

The formulated ayurvedic oil was evaluated for organoleptic characters and physicochemical parameters (Table 2& 3). Also, TLC was prepared and Rf value were reported in present communication. TLC plated was reported in plate 1 to 4. It shows major spot at Rf 0.4(brown) and 0.7 (dark brown) in visible light (Plate 1). Also, shows spots at Rf 0.9, 0.27 under Long UV light, Rf 0.14, 0.24 under short UV light and Rf 0.75, 0.23 and 4.5 in day light(Plate 2,3and 4 respectively).

Table 2: Organoleptic character

Parameters	Udumbaradi Taila
Color	Yellowish brown
Odour	Characteristic
Taste	Bitter
Consistency	Liquid

Table 3: Physico-chemical parameters

Parameters	Result
Refrective Index at 40ºC	1.473
Spacific gravity at 39ºC	0.900
Saponification value:	164.94
Iodine value	42.13
Acid value	5.16

Conclusion

In this study we went through several standardization process like organoliptic character (Table 2), oil study which includes specific gravity, refrective index, saponification value, iodine value, acid value, peroxide value (Table 3), TLC via two different solvent phase and spraying reagent which gave different Rf value.

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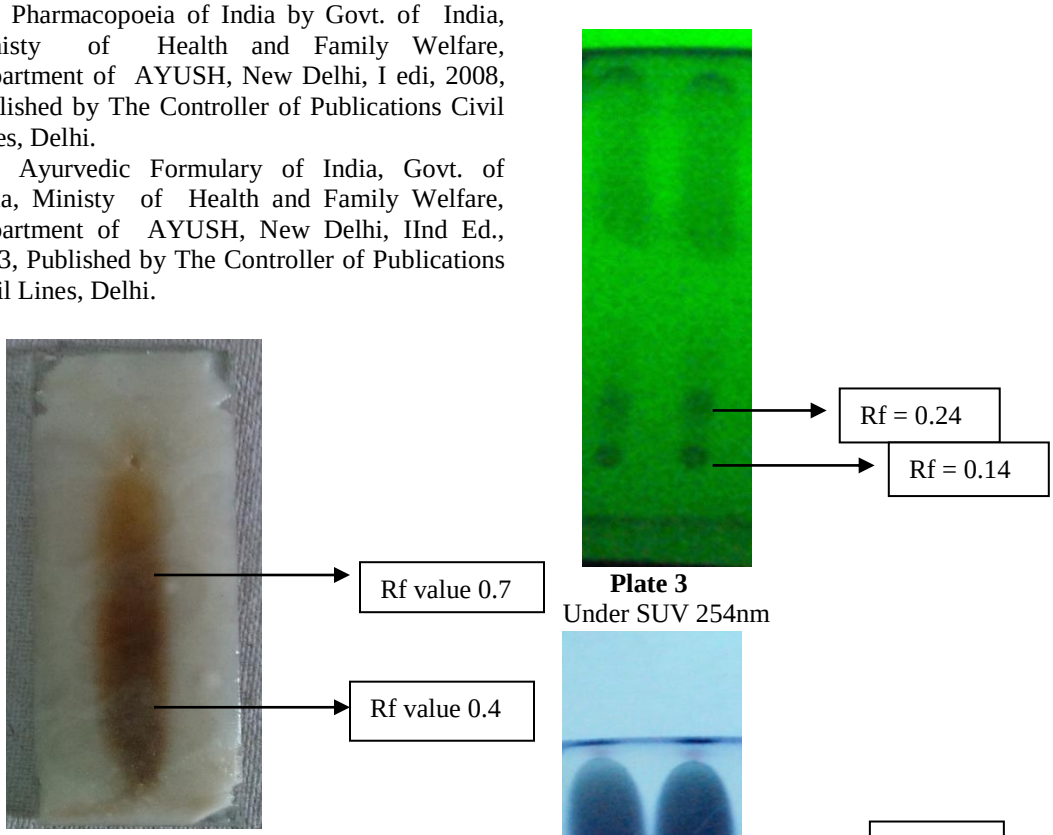

Plate 3
Under SUV 254nm

Plate 1

Plate 3
Under day light

Plate 2
Under LUV 365 nm

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