## STANDARDISATION OF MURIVENNA AND HEMAJEEVANTI TAILA

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**ABSTRACT:** 'Murivenna' and 'Hemajeevanti Taila' were prepared and their analytical values were reported for standardization. Thin layer chromatography was also done.

## INTRODUCTION

*Murivenna* is medicated oil used in Ayurvedic System of Medicine for contusions, fresh wounds and even for fractures. Ayurvedic Physicians have found *Hemajeevanti Taila* to be equally effective as *Murivenna*.

The aim of the present study was to find out whether there is any chemical similarity between *Murivenna* and *Hemajeevanti Taila* and to fix physiochemical standards for these two *tailas*. Thin layer chromatography was also done to fix standards for the above *tailas*.

### MATERIALS AND METHODS

Botanically and Pharmacognostically pure and authentic ingredients were used in the preparation of *Murivenna* and *Hemajeevanti Taila. Murivenna* is prepared using the following eight medicinal plants:-

1. Pongamia glabra, 2. Aloe vera, 3. Piper betle, 4. Erythrina indica 5. Allium cepa 6. Moringa Oleifera 7, Borreria hispida and 8. Asparagus racemosus whereas Hemajeevanti Taila was prepared using a single plant Wattakaka volubilis.

The method consists of four procedures viz.,

- 1. The preparation of a standard sample of the two *tailas* as per the Pharmacy Pharmacopoeia in the Ayurvedic College, Thiruvanthapuram. The samples were prepared under the supervision of Dr. S. Vijayalakshmi, Research Officer (Ayurveda) for our unit. The details of the ingredients of *Murivenna* and *Hemajeevanti taila* are given in Tables I and II respectively.
- 2. Recording preliminary parameters like colour, smell, appearance, specific gravity, ash content, loss on drying, Iodine value, Saponification value and Acid value. The results are given in Table III.
- 3. Separating the unsaponifiable matter from the oil of refluxing 2gms of oil with 25ml of alcoholic KOH for 2 hours, the alcohol was distilled off, the residue dissolved in distilled water, extracted, with ether and the ether soluble were taken from this residue.
- 4. T.L.C. Studies of the unsaponifiables with the two tailas were carried out using two different solvent systems.

- (a) Heptane : Benzene : Alcohol (50 : 50 : 1)
- (b) Benzene : Acetone (9:1)

# **RESULTS AND DISCUSSION**

From the standardization point of view, the analytical values of *Murivenna* and *Hemajeevanti taila* with the values of coconut oil (which is used as a base in preparing these two *tailas*) given in Table III can be used as preliminary reference standards for market samples of these *tailas*.

Since these values are mostly related to the purity of the coconut oil, the T.L.C. studies of the *tailas* were considered more useful to find the presence of the various chemical compounds of the plants used in the tailas, either in their native form or as artifacts. As the T.L.C study of the *tailas* as such did not give clear separation of compounds the T.L.C studies of the unsaponifiables of the tailas were tried. The Rf values of the spots are given in Tables IV and V. The T.L.C spots are elaborated into graphical profiles in Figs. I and II and this affords standards for these two tailas.

In the finished products of plants, according to current knowledge and possibilities no complete analytical investigation can be carried out<sup>1</sup>. For standardization purpose, the identification of each and every spot revealed by T.L.C may not be necessary; rather a comparison of the overall T.L.C pattern may be sufficient<sup>2</sup>. The petroleum ether and benzene extracts of the leaves of *Wattakaka volubilis* were tried on the alumina column and on the Silica gel column for the separation of the compounds. Three compounds were so far isolated. The compounds have some impurities which have to be purified by recrystallisation. One of them seems to be taraxerol from the preliminary reactions, melting point and from the previous studies<sup>3</sup>.

Comparison of the T.L.C pattern of the unsaphonifiables of the two tailas using the two solvent systems (a) and (b) indicates that the solvent system (a) is found to be better, as it gives 6 and 5 spots for Murivenna and Hemajeevanti taila respectively, while solvent system (b) gives 4 spots each. Of the different spots given by the two tailas, 3 spots are common in solvent system (a) Rf values 0.27, 0.38 & 0.46 and 2 spots are common in solvent system (b) 0.59 & 0.70. Since both the tailas are having almost the same clinical effect it can be said that the curative effect of the two tailas are due to the common compounds found in them. The isolation and identification of the above compounds are in progress.

From the economic point of view *Hemajeevanti taila* is to be preferred to *Murivenna* because the preparation of the formed taila requires only one plant viz *Wattakaka volubilis.* It is seen widely distributed in Kerala. While the preparation of *Murivenna* requires eight medicinal plants. Hence *Hemajeevanti Taila* can be substituted for *Murivenna*.





# TABLE – 1

# **INGREDIENTS OF MURIVENNA**

S. No.	Ingredients	Sanskrit Name	Malayalam Name	Quantity	Parts Used
1.	Pongamia glabra	Karanja	Pungu	600 gm	Bark
2.	Piper betle	Tambuli	Thambulam	600 gm	Leaf
3.	Aloe vera	Ghritakumar	Kumari	600 gm	Leaf
4.	Erythrina indica	Mura	Mullumurukku	600 gm	Leaf
5.	Allium cepa	Plandu	Chuvannulli	600 gm	Bulb
6.	Moringa oleifera	Sobhanjana	Sigru	600 gm	Leaf
7.	Borreria hispida	Madanaghanti	Tharuthaval	600 gm	Whole plant
8.	Asparagus racemosus	Shatamuli	Shatavali	120 gm	Rhizome
9.	Coconut oil				100 ml

# TABLE-2

# INGREDIENTS OF HEMAJEEVANTI TAILA

S.	Ingredients	Sanskrit	Malayalam Name	Quantity	Parts Used
No.		Name			
1	Wattakaka Volubilis	Hemajeevanti	Vattakkakkakoti	400 gm + 125 gm 'Kalkum'	Leaf
2	Coconut Oil			1000 ml	

# TABLE – 3

# ANALYTICAL VALUES OF *MURIVENNA*, *HEMAJEEVANTI TAILA* AND COCONUT OIL

S.	Parameter	Murivenna	Hemajeevanti Taila	Coconut oil
No.				
1.	Colour	Green	Dark Green	Colourless
2.	Smell	Pleasant smell	Characteristic smell	Characteristic smell
3.	Appearance	Viscous	Viscous	Viscous
4.	Touch	Oily	Oily	Oily
5.	Clarity	Clear	Clear	Clear
6.	Loss on drying at 1100C w/w	0.13	0.15	0.14
7.	Ash Value % w/w	Nil	0.18	Nil
8.	Sp. Gravity at room Temp.	0.92	0.92	0.92
9.	Acid Value mg/gm	2.17	2.37	1.67
10.	Saponification Value mg/gm	293.8	296.1	291.6
11.	Iodine Value gm/100 gm	10.58	9.49	8.12

## TABLE - 4

## **RESULTS OF T.L.C OF MURIVENNA AND HEMAJEEVANTI TAILA**

Murivenna			Hemajeevanti Taila		
No. of spots		Rf Values	No. of spots		Rf Values
6	1	0.12	5	1	0.08
	2	0.27		2	0.27
	3	0.38		3	0.38
	4	0.46		4	0.46
	5	0.54		5	0.95
	6	0.85			

Heptane : Benzene : Ethylalcohol System (50:50:1)

## TABLE-5

Murivenna			Hemajeevanti Taila		
No. of spots		<b>Rf Values</b>	No. of spots		<b>Rf Values</b>
	1	0.25		1	0.27
	2	0.59		2	0.59
4	3	0.70	4	3	0.70
	4	0.86		4	0.84

## **BENZENE : ACETONE SYSTEM 9:1**

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## REFERENCES

- 1. Halback, G., Deutsche Apothekar Zeitung, 123, Jahrg. Nr. 14 : 668 671 (1983).
- 2. Somanathan, A.R., Sadanandan, K. and Damodaran, N.P., Standardisation of Ayurvedic Medicines Dasamulam Kashayam, Ancient Science of Life, IX, No.2; 54 60 (1989).
- 3. Cook, T., Venkata Rao, R., Venkata Rao, E. and Viswanathan, N., Chemical Examination of Stems and leaves of *Marsdenia volubilis*, Department of Pharmacy, Andhra University, Waltair.