

**PHARMACOGNOSTICAL AND PHARMACEUTICAL ANALYSIS OF
VAMANA YOGA IN THE MANAGEMENT OF EKAKUSTHA W.S.R
TO PSORIASIS**

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ABSTRACT

Vamana Karma is the best therapy for elimination of vitiated Kapha Dosha^[1]. According to Ayurveda, Ekakustha is a type of Khsudra Kustha, caused due to predominance of Kapha-Vata dosha^[2]. In Charak samhita Kustha Chikitsasthan, Vamana Yoga has been mentioned for performing Vamana in Kustha disease.^[3] **Methods-** Vamana yoga was subjected to Pharmacognostical and physico-chemical analysis such as microscopic study, loss on drying, ash value etc. **Results-** The Pharmacognostical study showed the presence of contents such as; Brown content of Madhuka, Oil globule of Madhuka, Epicarp cells of Madhuka, Epidermal cells of Patola, Fibres of Nimba, Lignified fibres of Kutaj, Lignified parenchymal cells of Kutaj,

Lignified stone cells of Kutaj, Stone cells of Nimba, Prismatic crystals of Kutaj, Rhomboidal crystal of Nimba. Spiral vessels of Patola, Trichome of Patola. The Pharmaceutical analysis showed that the loss on drying value 9.53%, pH Value 6.5. **Conclusion-** The present work was carried out to standardize the finished product Vamana yoga in terms of its identity, quality and purity. Pharmacognostical and Physico-chemical observations revealed the specific characters of all active constituents used in the preparation.

KEYWORDS: Vamana yoga, ekakustha, Pharmacognosy, HPTLC, Pharmaceutical.

INTRODUCTION

Psora means “itch or scurf”. Psoriasis is called as itching disease. Psoriasis is recognized as an chronic inflammatory auto-immune disease caused by genetics, the immune system and environmental factors.

Robert Willan (1757-1812) recognized psoriasis as an independent disease. He identified 2 categories

- 1) Leprosa graceorum: term used to describe the condition in which skin has scales.
- 2) Psora Leprosa: term used to describe the condition in which it was eruptive.

National Psoriasis Foundation described 5 varieties of skin eruptions under Psoriasis

- Plaque Psoriasis
- Inverse Psoriasis
- Pustular Psoriasis
- Guttate Psoriasis
- Erythrodermic Psoriasis

1. Plaque Psoriasis

Plaque psoriasis affects 80% to 90% of patients making it the most common. Rapid cell growth creates silvery scale, on top of irregular shaped spots of red. Generally found on the scalp, knees, elbows and lower back that may crack and bleed.

2. Inverse Psoriasis

This type appears on creases and skin folds on the body, there is little to no scale and is smooth, yet still inflamed and red.

3. Pustular Psoriasis

A non contagious, non infection type of pustules with inflammation. It can cover large sections of the body or smaller regions. There are three types of Pustular Psoriasis that are mentioned by the National Psoriasis Foundation:

- Von Zumbusch
- Palmoplantarpustulosis or PPP
- Acropustulosis

3) Guttate Psoriasis

This type of Psoriasis appears on the trunk and limbs of people under 30 similar in appearance to chicken pox.

4) Erythrodermic Psoriasis

Erythrodermic psoriasis may result from a chronic case of Plaque Psoriasis. Effecting most of the surface area of the body, in appearances, this type resembles widespread redness of large areas of the body with pustules. In combination with intense itching and pain.

Vamana Yoga is herbal compound formulation mentioned in *Charak Samhita* for the management of *Kustha* for performing *Vaman*. *Vamana yoga* has 5 herbal contents in equal proportion – *Madanphala*, *Madhuka*, *Neemba*, *Patola*, *Kutaj*. These all ingredients are helpful in *kustha* disease due to *kashaya* and *tikta rasa*, *laghu guna*, *ushna virya*. In the present study, the formulation is subjected to Pharmacognostical and pharmaceutical analysis. Preliminary organoleptic features and results of microscopy were verified and all the ingredients were proved to be authentic.

MATERIALS AND METHODS

Collection, identification and authentication of raw drug

The raw drugs for the preparation of *Vamana Yoga* were procured from the Pharmacy, Gujarat Ayurved University, Jamnagar. The ingredients & parts used in the preparation of the final product are listed in the table 1.

Preparation of drug

The final product i.e. *Vamana yoga* was prepared in the pharmacy, Gujarat Ayurved University, Jamnagar.

Pharmacognostical study

The Pharmacognostical study comprises of organoleptic study and microscopic study of finished product.

Organoleptic Study

The Organoleptic characters of Ayurvedic drugs are very important and give the general idea regarding the genuinity of the sample. Organoleptic parameters like Taste, Colour, odour and touch were scientifically studied in Pharmacognosy laboratory, I.P.G.T. & R.A., Gujarat Ayurved University, Jamnagar, Gujarat, India.^[4]

Microscopic Study

Vamana Yoga was dissolved with water and microscopy of the sample was done without stain and after staining with Phloroglucinol + HCl. Microphotographs of *Vamana yoga* was also taken under Corl-zeiss trinocular microscope.^[5]

Physico-chemical analysis

Vamana yoga was analyzed using various standard physico-chemical parameters such as Loss on drying, water soluble extract, alcohol soluble extract etc.^[6]

High Performance Thin Layer Chromatography (HPTLC)

HPTLC was performed as per the guideline provided by API. Methanolic extract of drug sample was used for the spotting. HPTLC was performed using Toluene + Ethyl acetate + Acetic acid (14:4:2) solvent system and observed under visible light. The colour and R_f values of resolved spots were noted.^[7]

RESULTS AND DISCUSSION

Organoleptic characters of *Vamana yoga*

Organoleptic characters of *Vamana yoga* such as color, odour, taste etc. examined by sensory organs and results are as shown in Table 2.

Microscopic characters of *Vamana Yoga*

Diagnostic characters of *Vamana yoga* were observed under the microscope are Brown content of Madhuka, Lignified Fibres of Kutaj, Spiral vessels of Patola, Epidermal cell of Patola, Fibers of Nimba, Oil globule of Madhuka, Lignified parenchymal cells of Kutaja, Trichomes of Patola, Lignified stone cells of Kutaj, Rhomboidal crystals of Nimba, Prismatic Crystal of Kutaj, Simple and compound starch grains of Kutaj, Parenchymal cells with starch grains of Kutaj Plate 1.

Physicochemical parameters of *Vamana yoga*

Physicochemical parameters of *Vamana yoga* such as ash value, water soluble extract, alcohol soluble extract, pH etc. results are shown in Table 3.

HPTLC Study

Chromatogram shows 8 prominent spots at 254nm with maximum R_f value 0.02, 0.32, 0.43, 0.62, 0.68, 0.72, 0.76, 0.94 and 5 spots at 366nm with maximum R_f value 0.02, 0.32, 0.62,

0.68, 0.71 (Plate 2, Fig. 1-2) and three dimensional densitogram is also shown. (Plate 3, Fig. 1-2).

Table 1: Contents of Vamana Yoga.

Sr. no.	Drugs	Latin name	Part used	Approx dose
1.	Kutaj	Holarrhena antidysentrica Wall	Phala	1 Part
2.	Madanphala	Randia dumentorum Lam	Phala	1 Part
3.	Patola	Trichosanthes dioica L.	Phala	1 Part
4.	Nimba	Azadirachta indica A. Juss.	Twaka	1 Part
5.	Madhuka	Glycyrrhiza glabra Linn.	Moola	1 Part

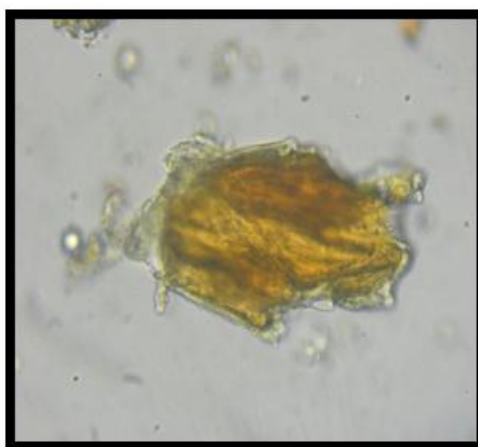
Table 2: Organoleptic characters of Vamana Yoga.

Sr. No.	Characters	Results
1	Colour	Creamish Brown
2	Odour	Aromatic
3	Taste	Sweetish Astringent followed by bitter
4	Touch	Coarse

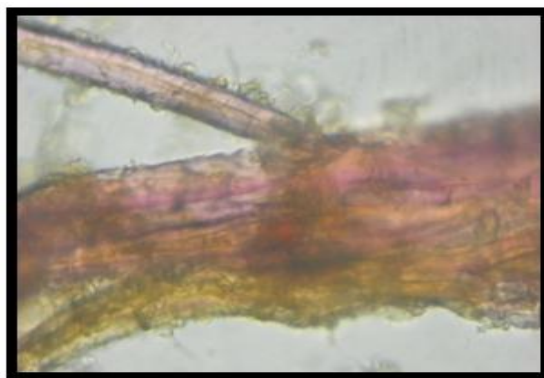
Table 3: Physicochemical parameters of Vamana Yoga.

Sr. No.	Test	Result
1	Loss on Drying	9.53% w/w
2	Ash Value	10.131% w/w
3	Water soluble extract	12% w/w
4	Methanol soluble extract	6.513% w/w
6	pH	6.5

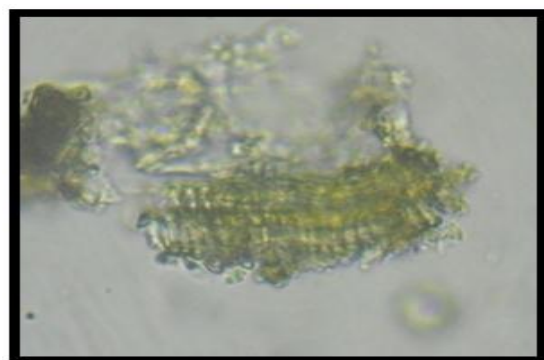
Plate 1: Microscopic characters of Vamana Yoga



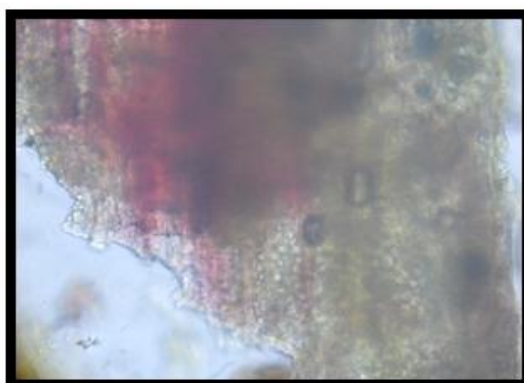
Brown content of Madhuka



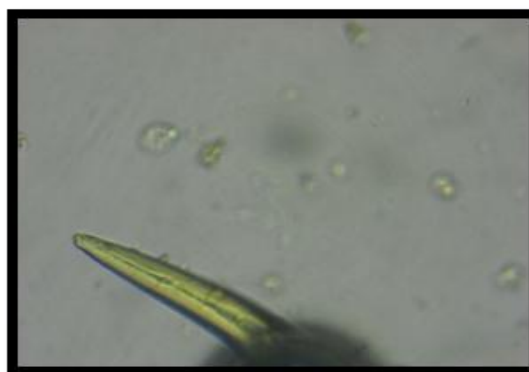
Lignified Fibres of *Kutaj*



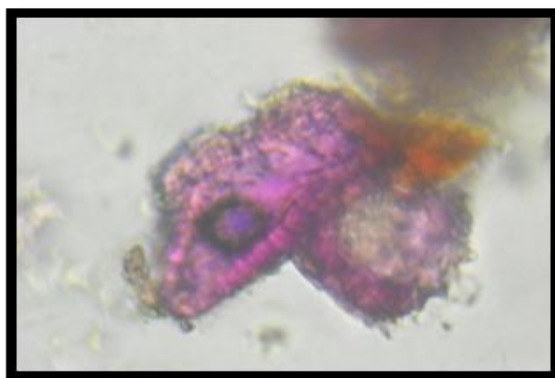
Spiral vessels of *Patola*



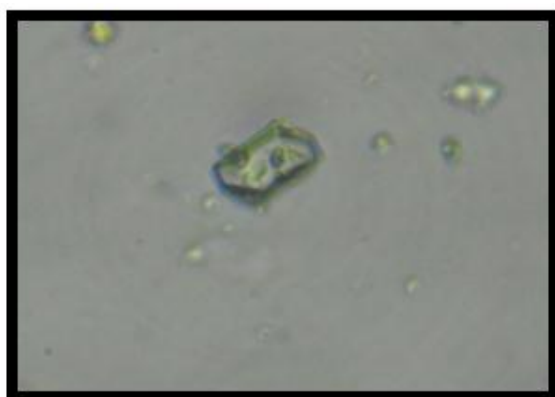
Lignified parenchymal cells of *Patola*



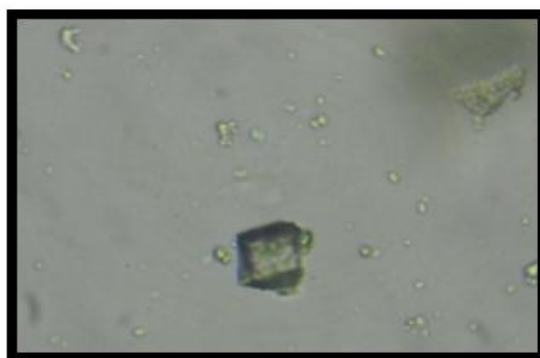
Trichomes of *Patola*



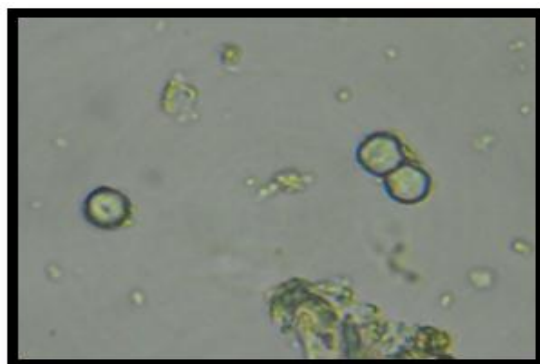
Lignified stone cells of *Kutaj*



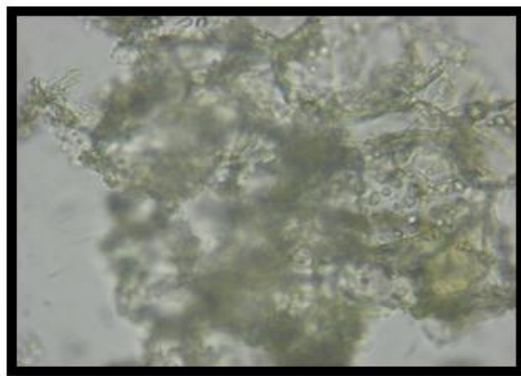
Rhomboidal crystals of *Nimba*



Prismatic Crystal of *Kutaj*

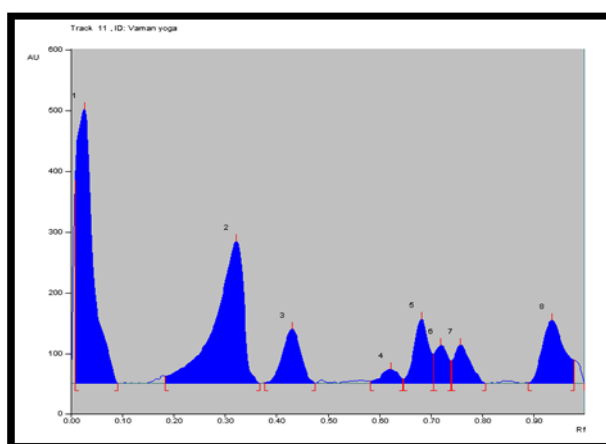


Simple and compound starch grains of *Kutaj*

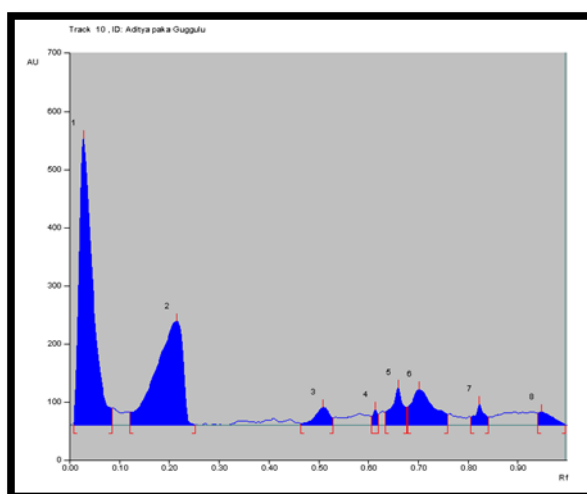


Parenchymal cells with starch grains of *Kutaj*

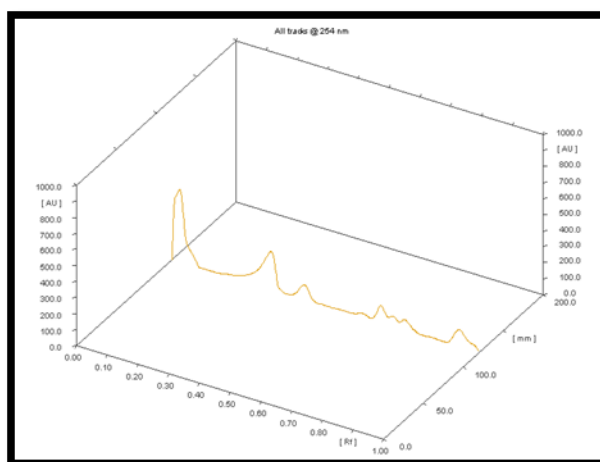
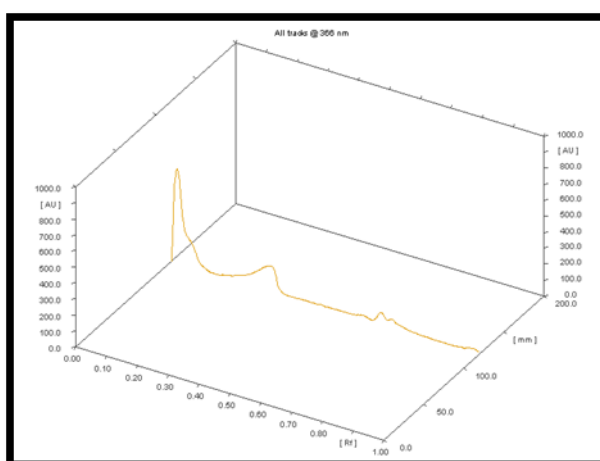
Plate 2: Densitogram of *Vamana Yoga* at 254 nm and 366 nm.



Peak display at 254 nm



Peak display at 366 nm

Plate 3: Three dimensional HPTLC (3D) Densitogram.**254 nm****366 nm**

CONCLUSION

Quality control analysis of any formulation is very much necessary to assess its safety, purity and universal acceptability for the particular disease. Standardization is a measurement for ensuring the quality control enabling the reproducibility of the formulation. The pharmacognostical and physico chemical analysis of *Vamana yoga* confirmed the purity and genuineness of the drug. Further studies may be carried out on this formulation on the basis of observation made and results of experimental studies. This study may be beneficial for future researchers and can be used as a reference standard in the further quality control researchers.

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