

Pharmacognostical and Pharmaceutical Evaluation of Eranda Taila

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ABSTRACT: Introduction: According to Ayurveda classics, the symptoms of Pakshaghata like loss of functions and mobility of half of the body either right or left, pain and disturbed speech are indicating involvement of Vata Dosha. Classics have mentioned Virechana as prime treatment for Pakshaghata. Eranda Taila has Bhedaniya, Rechaniya property along with Snigdha, Ushna, MadhuraGuna. It is commonly used for management of Pakshaghata which commonly presents with loss of strength in affected limbs, difficulty in performing daily routine works, pain etc. **Materials and methods:** Drug Eranda Taila as per the reference in Bhavaprakash Samhitawasprocured from the Pharmacy of Gujarat ayurved university, Jamnagar, Gujarat. It was prepared as per the standard preparation procedure. The final product was then subjected to pharmacognostical and pharmaceutical analysis. Pharmacognosy of Eranda Taila was carried out by preparing a slide made with glass slide and cover slip. Then this slide was observed under the Carl Zeiss Trinocular microscope. Organoleptic characters and physico-chemical parameters were noted. HPTLC was performed and observed under short UV (254 nm) and long UV (366 nm). **Results:** Pharmacognosy study of Eranda Taila revealed presence of Cluster crystal, Prismatic crystal, Fibres, Spiral vessels, Sppol cells, and Starch grains with alurone grains. Analytical study of Eranda Taila showed 4 spots and 2 spots at 254 nm and 366 nm respectively. **Discussion and conclusion:** Pharmacognosy study of Eranda Taila revealed that presence of oil content of castor suggests purgative effect of Eranda Taila. Pharmaceutical study showed the nature and other characteristics of the solution making it possible to

understand how Eranda Taila might have worked on patients of Pakshaghata.

KEYWORDS: Eranda Taila, Pakshaghata, Pharmacognosy, Pharmaceutics.

I. INTRODUCTION:

Indigenous drugs used by different ethnic groups of the world for the treatment of diseases have special significance of having been tested on long time scale. They are relatively safe, easily available and affordable to masses of community. Traditional drugs have given the important lead in the search of new drugs. Eranda Taila in ayurvedic literature is used as purgative or as Virechaka. Ricinus communis L. belong to the family Euphorbiaceae is in use for medicinal purposes for a long time, in traditional system of medicine.

Seeds of Eranda (Ricinus communis L.) which is well-known for its purgative as well as Vata-Kapha reducing qualities. It has Ushna, Madhura, Snigdha, Guruproperties¹ and also Bhedaniya or Rechaniya² properties.

Keeping this in mind administration of Eranda Taila, as Virechana Aushadhais used to mitigate the symptoms of Pakshaghata.³ Now to understand the mechanism of Eranda Taila as how does it successfully mitigate Pakshaghata an attempt has been made to get some clue in understanding the liquid as a whole in terms of its microscopic analysis and physico-chemical analysis. Addition to this pharmacognosy of Eranda Taila was done to authenticate the herb used.

OBJECTIVES: To analyze the pharmacognostic, phytochemical and HPTLC of Eranda Taila.

II. MATERIALS AND METHODS: Collection and processing of drug:

The Latin nomenclature and part used of the drug is listed in Table No. [1], Eranda Taila was procured from the Pharmacy, Gujarat Ayurved University, Jamnagar, Gujarat. Final product was stored in air tight containers.

TABLE NO. [1]–Eranda Taila⁴

Sr. No.	Drug	Latin name	Parts used
1	Eranda	Ricinus Communis L.	Seed oil

Pharmacognostical study:

Eranda Taila was observed and authenticated by the Pharmacognosy department of the institute. The identification of individual drugs was done on the basis of microscopic features of the finished product. Here, pharmacognostical evaluation of Eranda Taila was carried out by preparing a glass slide with cover slip. Then this slide was observed under the Carl Zeiss Trinocular microscope. The microscope was attached with a camera. Then photographs of Eranda Taila slide (finished product) at 40x magnification were taken without staining and after that with-staining (phloroglucinol and HCl staining).

Pharmaceutical Evaluation:

Eranda Taila was subjected to testing of certain important Physico-chemical parameters (as per API) at the institutional pharmaceutical laboratory; like Acid value, Saponification value, Iodine value, Refractive index, Specific gravity and density to understand characteristics of this medicated oil. These may be helpful in understanding its mode of action especially on its application internally as a mode of purgative in cases of Pakshaghata, etc.

High Performance Thin Layer Chromatography (HPTLC)⁵⁶⁷ study of Eranda Taila

was performed by using Toluene: Ethyl acetate (9:1 v/v) solvent system and observed under short UV (254 nm) and long UV (366 nm). The instruments and methods were as under,

- Application Mode - CAMAG Linomat 5- Applicator
- Filtering System - Whatman Filter paper No.1
- Stationary Phase - MERCK HPTLC Silica Gel 60 F254
- Application (Y axis) Start Position - 10mm
- Sample Application Volume - 10µL
- Development Mode - CAMAG TLC Twin Trough Chamber
- Chamber Saturation Time - 30 Minutes
- Mobile Phase - Petroleum ether: Diethyl ether : Acetic acid (9:1:0.1 v/v)
- Visualisation - @254nm, @366nm and (after derivatization)
- Derivatization Mode - CAMAG-Dio tank for about 1 minute Drying Mode, Temperature - TLC Plate Heater preheated at 100±50°C
- Drying Time - 3 Minutes

III. RESULTS:

Organoleptic characteristics of Eranda Taila:

Character	Eranda Taila
Colour	Creamish white
Odour	Oily
Taste	Light astringent
Touch	Gritty

Characteristics of Eranda Taila: Microscopic evaluation of Eranda Taila was conducted and microphotographs were taken as seen, Photo - 1.1 Cluster crystal, Photo - 1.2

Fibres, Photo - 1.3 Prismatic crystal, Photo - 1.4 Spiral vessels, Photo - 1.5 Sppol cells, Photo - 1.6 Starch grains with alurone grains.



Photo 1.1 –Cluster crystal

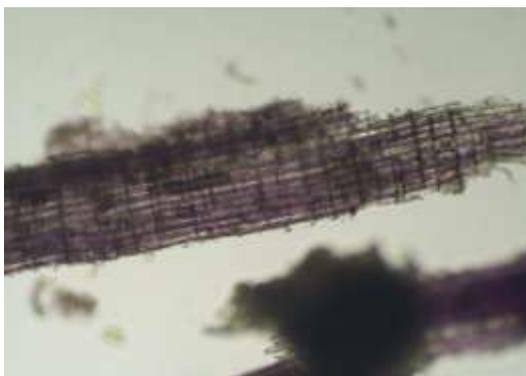


Photo 1.2 –Fibres



Photo 1.3 - Prismatic crystal



Photo 1.4 –Spiral vessels

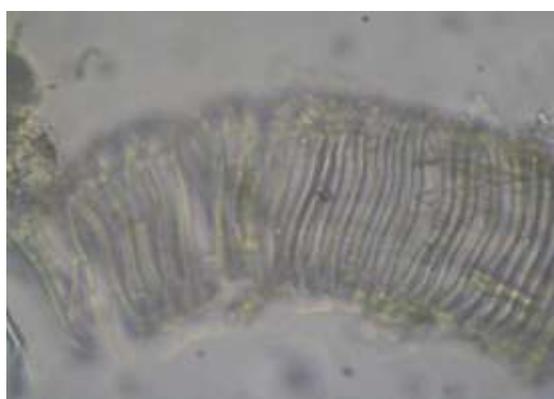


Photo 1.5 –Spongy cells

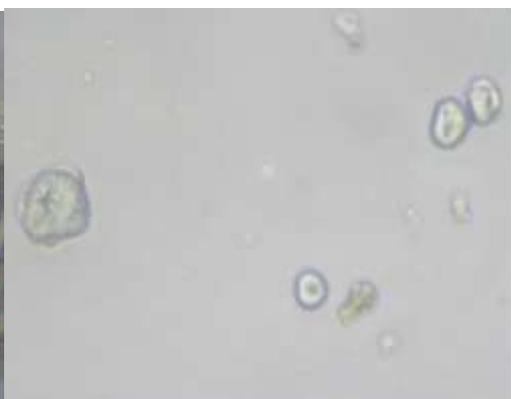


Photo 1.6 –Starchgrains with alurone

Details of physicochemical parameters are mentioned in Table-[2]. HPTLC profile of methanolic extract of Eranda Tailawas done and details of number of spots and Rf value are given in

Table-[3] and HPTLC profile is given in Photo 2 showing HPTLC: Densitogram at 254 nm and Photo 3 HPTLC: Densitogram at 366 nm.

TABLE NO. [2]PHYSICO-CHEMICAL PARAMETERS OF ERANDA TAILA

Sr. No	Parameters	Test Result
1	Acid value	2.154
2	Specific gravity	0.9596
3	Density	0.9257
4	Iodine Value	88
5	Saponification Value	182.76
6	Refractive Index	1.4890

Analytical study of Eranda Taila has showed 4spots and 2 spots at 254 nm and 366 nm respectively.

TABLE NO.[3]R_fVALUES OFERANDA TAILA

Wavelength	No. of Spots	R _f values
Short UV (254 nm)	4	0.06, 0.25, 0.52, 0.65
Long UV (366 nm)	2	0.06, 0.25

Photo 2 - Densitogram curve of Methanol extract of Eranda Tailaat 254nm

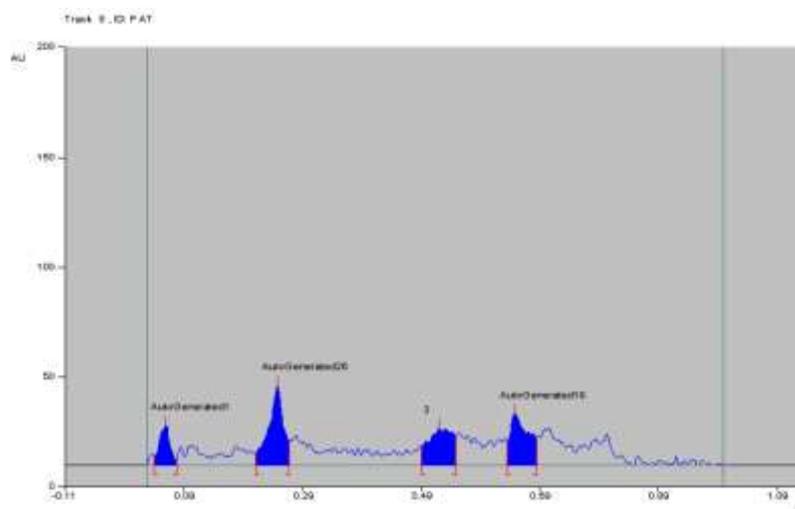
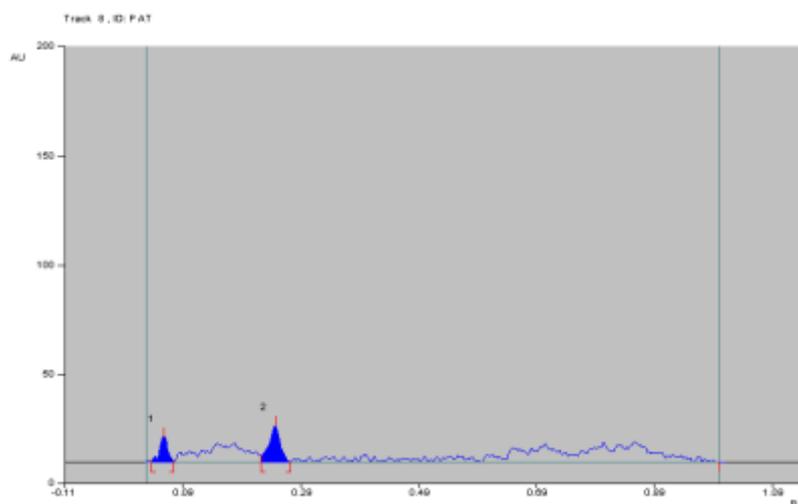


Photo 3 - Densitogram curve of Methanol extract of Eranda Tailaat 366nm



IV. DISCUSSION:

Standardization is a measurement for ensuring the quality control enabling the reproducibility of the formulation. Raw drugs were authenticated and analysed before processing because good quality products mainly dependent upon genuine raw materials. Pharmacognosy study of Eranda Taila revealed oil content of castor which suggests purgative effect of Eranda Taila. Cluster crystal, Fibres, Prismatic crystal, Spiral vessels, Spol cells, Starchgrains with alurone grains observed under microscope. All the physico-chemical parameters i.e. Specific gravity, Refractive Index, Iodine Value, Saponification Value, Acid Value(W/W) and Density were analyzed and found to be within the normal reference range. The HPTLC finger printing of Eranda Taila at 254 and 366 nm wavelengths was done to record and standardize the solution for future references. This study to a certain extent has

helped in throwing light on understanding probable action of Eranda Taila in Pakshaghata.

V. CONCLUSION:

The Pharmacognostic study has showed presence of Starchgrains with alurone grains and other contents in Eranda signifying that the content of Eranda Taila has been imparted to final product. Pharmaceutical study showed the nature and other characteristics of the solution making it possible to understand how Eranda Taila might have worked on patients of Pakshaghata. Quality control of herbal formulation is very much necessary to assess its safety, purity and universal acceptability. HPTLC results suggest the presence and incorporation of active constituents of herbal drugs. The results of this study may be used as a reference standard in further research undertakings of its kind.

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