



Pharmacognostical and Physico-Chemical Evaluation of *Vidarikandakshirpaka*: An Ayurvedic Herbal Formulation

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Abstract

According to the fundamental of *Ayurveda*, therapy should have pacifying outcome on the disease and it must not create any adverse effect. A drug should not be only effective, but also easily available. *Pueraria tuberosa*; is among the best nutritive herbs in *Ayurveda*. *Vidarikanda* is considered as *Vata* and *Pitta* pacifying and effective as *Rayasan* and *Bruhaniya* in Ayurvedic treatises hence *Vidarikandakshirpaka* was selected in the present study for the management of *Karshya*. The present study was aimed at setting up a standard profile of *Vidarikandakshirpaka* through the Pharmacognostical and pharmaceutical analysis as per protocol. The observations were systematically recorded. Pharmacognostical findings like pitted vessel of *Vidari*, fibers of *Vidari*, brown content tenin of *Vidari*, fragment of annular vessels of *Vidari* and covering trycome of *Vidari*, oil globules of milk etc. were observed. Organoleptic features of coarse powder were matched as per API parameters. physicochemical result showed water soluble extract 28.68% w/w, methanol soluble extract 6.96%, ash value 14.32 %, acid insoluble ash 3.12%. As per the above analysis it was concluded that the formulation meets the minimum qualitative standards as reported in the API at a preliminary level.

Keywords

Vidarikandakshirpaka, *Vidarikanda*, Pharmacognosy, Pharmaceutical



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INTRODUCTION

The use of natural substances as a source of medicines traces back to Vedic era. Thousands of herbs are being used for the primary healthcare requirements and as nutritional supplements too. Indian medicinal science, *Ayurveda* has a comprehensive enlistment and rationalization of these uses. *Acharya Charaka* has given very much importance to Chatuspada among them; drug has been placed after the physician¹. *Acharya Charaka* has emphasized, the knowledge of therapeutic drug by considering it in 'Trisutra' i.e. *Hetu*, *Linga* and *Aushadh*². *Ayurveda* believes that every *Dravyas* (*Aushadhi*) are *Panchbhautic*³ and they work according to their *Ras-Panchaka* or *Guna Karma*.

Vidarikanda, Indian kudzu or *Pueraria tuberosa*; is among the best nutritive herbs in *Ayurveda*⁴. It belongs to the family Fabaceae which is a perennial climber with woody tuberculated stem. A completely grown plant measures 5-6 meters in height. This plant having white flowers with pink shade. It is habitually found throughout the India except in very humid or very dry regions⁵. In *Ayurveda*, its roots are mainly used for medicinal purposes. *Vidarikanda*

has *Madhur Rasa*, *Guru*, *Snigdha Guna* and *Shita Veerya*. *Acharya Charaka* mention the *Vidarikanda* in *Snehopaga Mahakashaya*⁶, *Madhur skandha*⁷ and *Kanthya*⁸ and also mentioned in *Shaka Varga*⁹ (vegetable) which have the property of *Jeevniya* (improving age), *Bruhniya* (Nourishing), *Vrishya* (aphrodisiac), *Kanthya* (improve voice), *Rasayana* (rejuvenation), *Balya* (strengthen), diuretic, sweat and cold. *Vidarikanda* broadly used for a variety of formulation and used in disease like *Raktapitta*, *Rajyakshama*, *Kshatkshina*, *Kasa*, etc. and specially mentioned for *Bala Varna Vardhaka*, *Rasayana* (rejuvenation), *Vajikara* (aphrodisiac).

Based on the basic principles of formulation preparation in *Ayurveda*. *Kshira* i. e., milk is widely used from ancient era as a food and base of medicament. It has a very high nutritive as well as medicinal value because of it contains properties like proteins, fatty acids, lipids, vitamins and minerals which are easily acceptable by healthy persons and patients too. *Acharya Charaka* emphasized that milk have been potentially used as a medicine alone and also combine it with different herbs in the case of *Kshirpaka*¹⁰. Physical properties of milk verify this concept. It has been studied that on gradual



raise in the temperature of milk, solubility of proteins and fats also increases, which may improve the extraction of the medicinally essential active constituents¹¹. *Ayurvedic* fraternity uses *Kshirapaka* when nourishment too is expected along with medication.

For this regard present work was carried out to standardize and evaluate the pharmacognostical as well as pharmaceutical properties of *Vidarikandakshirpaka*.

MATERIALS AND METHODS

Collection of raw materials:

Raw drug was collected from the Department of Pharmacy, Gujarat Ayurveda University, Jamnagar.

Preparation of *Vidarikandakshirpaka*:

As per the classical methods one part of drug (*Vidarikanda* 5 gm *Churna*) is boiled in 8 parts of milk (40ml) with addition of 32 parts of water (160ml). The boiling is continued till the water gets evaporated and milk alone is left i.e., *Ksiravasesham*¹² (Table 1).

Pharmacognostical study

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

Organoleptic Study

The Organoleptic characters of Ayurvedic drugs are important and provide the common idea about the genuinity of the sample. Organoleptic parameters like Taste, Colour, odour, touch and Consistency were studied in the laboratory of Pharmacognosy, I.P.G.T. & R.A., Gujarat Ayurved University, Jamnagar, Gujarat, India¹³.

Table 1 Composition of *Vidarikandakshirpaka*

Sr. no	Sanskrit name	Botanical name	Family	Part used
1	<i>Vidarikanda</i>	<i>Pueraria tuberosa</i>	Fabaceae	roots

Microscopic Study

Vidarikandakshirpaka was powdered and dissolved with water and microscopy of the sample was done without stain and after staining with Phloroglucinol + HCl. Microphotographs of *Vidarikandakshirpaka* were also taken under Corl-zeiss trinocular microscope¹⁴.

Vidarikandakshirpaka was analyzed using various standard physico-chemical parameters such as total ashvalue, water soluble extract, alcohol soluble extract etc¹⁵.

RESULTS

Organoleptic findings: An organoleptic finding of *Vidarikandakshirpaka* is given in Table 2. **Pharmacognostical study:** The initial purpose of the study was to confirm



the authenticity of the drug used in the preparation of *Vidarikandakshirpaka*. For that microscopy of *Vidarikandakshirpaka* showed pitted vessel of *Vidari*, fibers of *Vidari*, brown content tenin of *Vidari*, fragment of annular vessels of *Vidari* and covering trycome of *Vidari*, oil globules of milk (Microphotographs Plate 1). In this preparation most of the constituents of *Vidari* are dissolving in milk while boiling it.

Table 2 Organoleptic Characters

Organoleptic Characters	<i>Vidarikanda</i>	<i>Vidarikandakshirpaka</i>
Taste	<i>Madhura</i> (Sweet)	Testless
Colour	light white	Creamish white
Odour	Sweetish	milky smell
Touch	Smooth	Smooth and oily
Consistency	Powder	Liquid

2. Pharmaceutical Evaluation: Physico-Chemical parameters of *Vidarikandakshirpaka* like ash value, water soluble extract etc. all were found to be within the normal range. Details are given in Table 3.

DISCUSSION

The present study was undertaken to standardize *Vidarikandakshirpaka*, hence the material was subjected to minimum Pharmacognostical and pharmaceutical

analysis. Pharmacognostical evaluation of *Vidarikandakshirpaka* showed that all the observed characters which are from *Vidarikandakshirpaka* formulations showed that genuinity and purity of the finished product.

The ingredients of *Vidarikandakshirpaka* are *Madhura Rasa*, *Shita Veerya Guru* and *Snigdha* in nature with pacifying *Vata*, *Pitta Dosh*a and increase *Kapha*.

Table 3 Results of the drug analysis on physico-chemical parameters

Sr.no	Test	Results
1	Ash value	14.32 % w/w
2	Water-soluble Extract	28.68 % w/w
3	Methanol-soluble Extract	6.96 % w/w
4	Acid insoluble ash	3.12 % w/w

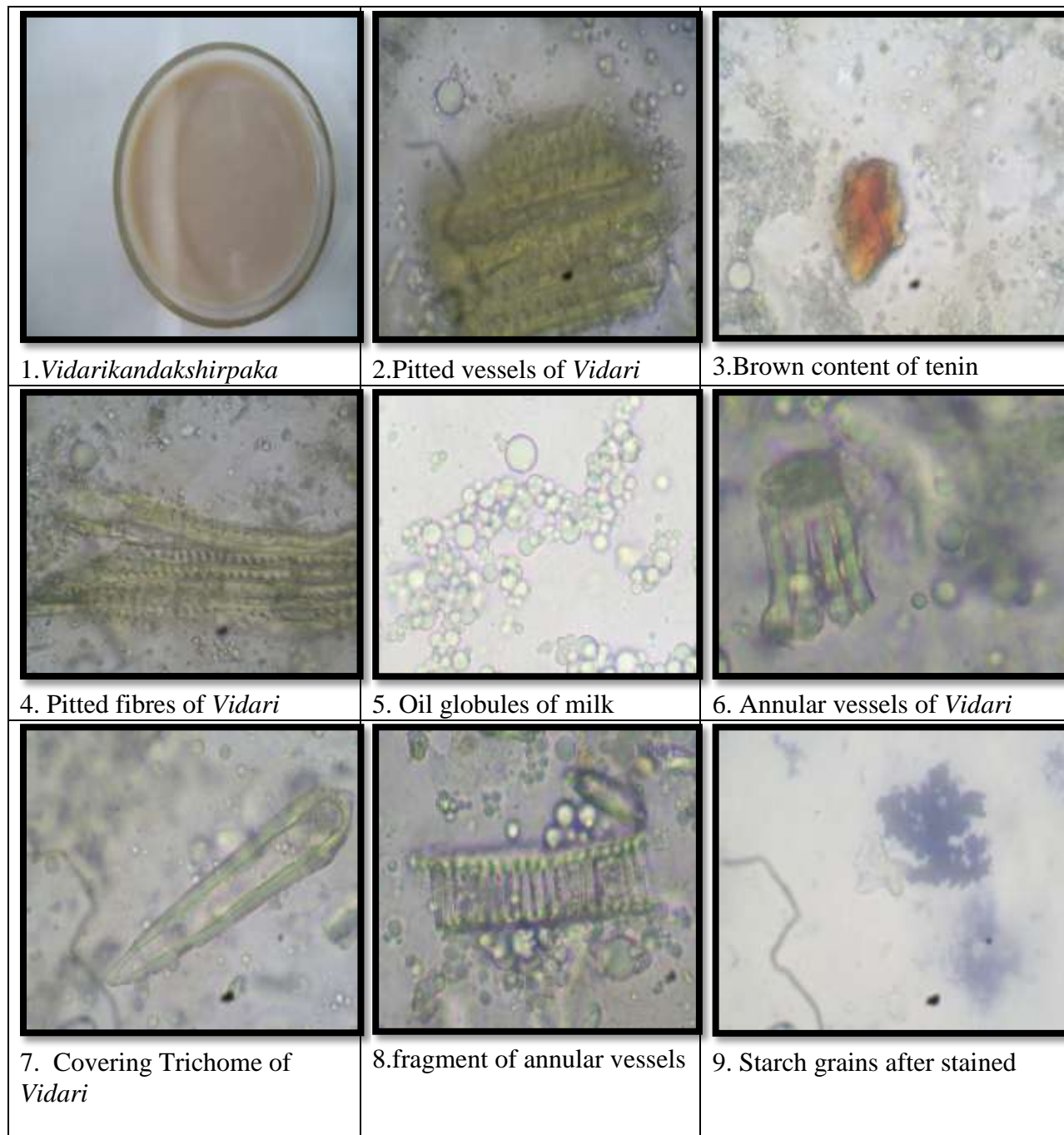
CONCLUSION

Pharmacognostical and pharmaceutical analysis of *Vidarikandakshirpaka* showed the specific characters of ingredients which were used in the preparation. Pharmacognostical findings confirm the ingredients at a preliminary level. Though the groundwork for the standardization of *Vidarikandakshirpaka* was covered in this study, additional important analysis and investigations are required for further identification of all the active chemical constituents. The outcome of this study may

be helpful as the reference for the further research work. This formulation is useful for

a nutritional and as well as medicinally purpose also.

Plate 1 Microphotographs of *Vidarikandakshirapaka*





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