

**PHARMACOGNOSTICAL AND PHARMACEUTICAL EVALUATION
OF *HARIDRADI PRATISARANA* - A HERBOMINERAL
FORMULATION**

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Article Received on
05 March 2017,

Revised on 22 March 2017,
Accepted on 13 April 2017

DOI: 10.20959/wjpr20175-8372

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ABSTRACT

Tonsillitis is one of the most common disease of school going children as this age group is more prone to infection. About 30 million children develop Tonsillitis after frequent exposure to bacterial and viral infections. The incidence of this disease is about 7% of all visits to the pediatrician. *Tundikeri* is one of the *Mukharoga* which comes under *Kanthagata* or *Talugata Roga* according to different *Acharayas*. The symptoms of *Tundikeri* such as *Shofa* (inflammation), *Toda* (Pain), *Daha* (Sore Throat), *Prapaka* (Suppurative inflammation) are more

similar to Tonsillitis. *Haridradi Pratisarana* is one of the *Anubhuta Yoga* (experimental formulation) which is used for *Pratisarana* in *Tundikeri* (Tonsillitis). The present work was carried out to standardize the finished product *Haridradi Pratisarana* 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. The Pharmaceutical analysis showed that the loss on drying value was 10.54%, pH Value 9, Acid insoluble Ash 1.47%. HPTLC study of *Haridradi Pratisarana* revealed 5 spots at 254 nm and 3 spots on 366 nm.

KEYWORDS: *Haridradi Pratisarana*, *Tundikeri*, Pharmacognosy, Tonsillitis, Pharmaceutical analysis.

INTRODUCTION

Tonsillitis is a very common prevalent disease seen especially during morbid seasonal variation. About 30 million children develop Tonsillitis after frequent exposure to bacterial and viral infections. The incidence of this disease is about 7% of all visits to the pediatrician.^[1] Tundikeri in *Ayurveda* classics considered as one of the *Mukharoga* which comes under *Kanthagata* or *Talugata Roga* according to different *Acharayas*.^{[2],[3]} The symptoms of *Tundikeri* such as *Shofa* (inflammation), *Toda* (Pain), *Daha* (Sore Throat), *Prapaka* (Suppurative inflammation) are more similar to Tonsillitis.^[4] Various local procedures are advocated in the management of *Mukharogas*, among them *Pratisarana* (local application of drug with gentle rubbing) is one.^[5] In Modern science number of medicines like anti inflammatory, NSAIDS, antibiotics, analgesics etc. are advocated but routine use of these drugs leads to GI tract disturbances and suppress the immunity. Further in recurrent attacks of Tonsillitis, there is a need for surgical intervention. Tonsils are an important part of immune system throughout life, so it is best to avoid removing them.^[6] *Haridradi Pratisarana* is an *Anubhuta Yoga* which has 2 ingredients i.e, *Haridra* and *Tankana*. Both the drugs having anti-inflammatory and anti-microbial property. *Pratisarana* of this *Anubhuta Yoga* over Tonsils effectively reduces the inflammation of Tonsils and gives relief in sign and symptoms. To maintain the therapeutic activity of the drug standardization is very much necessary. Till date there is no reference regarding evaluation on *Haridradi Pratisarana*. In the present study, the formulation is subjected to Pharmacognostical and pharmaceutical analysis.

MATERIALS AND METHODS

Collection, Identification and Authentification of raw drugs

The raw materials were collected from the pharmacy of Gujarat Ayurved University, Jamnagar.

The raw drug *Haridra* was identified and authenticated in the Pharmacognosy Department, Institute for Post Graduate Teaching and Research in Ayurveda, 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.^[7]

Microscopic Study

Haridradi Pratisarana was powdered and dissolved with water and microscopy of the sample was done without stain and after staining with Phloroglucinol + HCl. Microphotographs of *Haridradi Pratisarana* was also taken under Corl-zeiss trinocular microscope.^[8]

Physico-chemical analysis

Haridradi Pratisarana was analyzed using various standard physico-chemical parameters such as loss on drying, water soluble extract, alcohol soluble extract etc.^[9]

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+ Ethylacetate+ Acetic acid (7:2:1) solvent system and observed under visible light. The colour and R_f values of resolved spots were noted.^[10]

RESULTS AND DISCUSSION

Organoleptic characters of *Haridradi Pratisarana*

Organoleptic characters contents of *Haridradi pratisarana* like colour, taste, touch, Odour were recorded and shown in Table- 2.

Microscopic Study

Diagnostic characters of *Haridradi Pratisarana* under the microscope showed greenish yellow content, oil globule along with simple starch granule of *Haridra*, crystalline matter, prismatic crystals and black debris of *Tankana*. Iodine stain revealed Starch grain of *Haridra*.

Pharmaceutical Evaluation

Physico-chemical Tests

Physico-chemical analysis of *Haridradi Pratisarana* revealed the value of loss on drying was 10.54%, Ash value 42.15% w/w, water soluble extraction 46.06% Acid soluble extraction 32.41%, pH Value 9, Acid insoluble Ash 1.47%. and shown in Table – 3.

HPTLC Study

The chromatographic study (HPTLC) was carried out under 254 and 366 nm UV to establish fingerprinting profile. It showed 5 spots at 254 nm and at 366 nm with R_f values were recorded which may be responsible for expression of its pharmacological and clinical actions. Plate 2, Table – 4.

Plate 1: Microphotographs of *Haridradi Pratisarana*

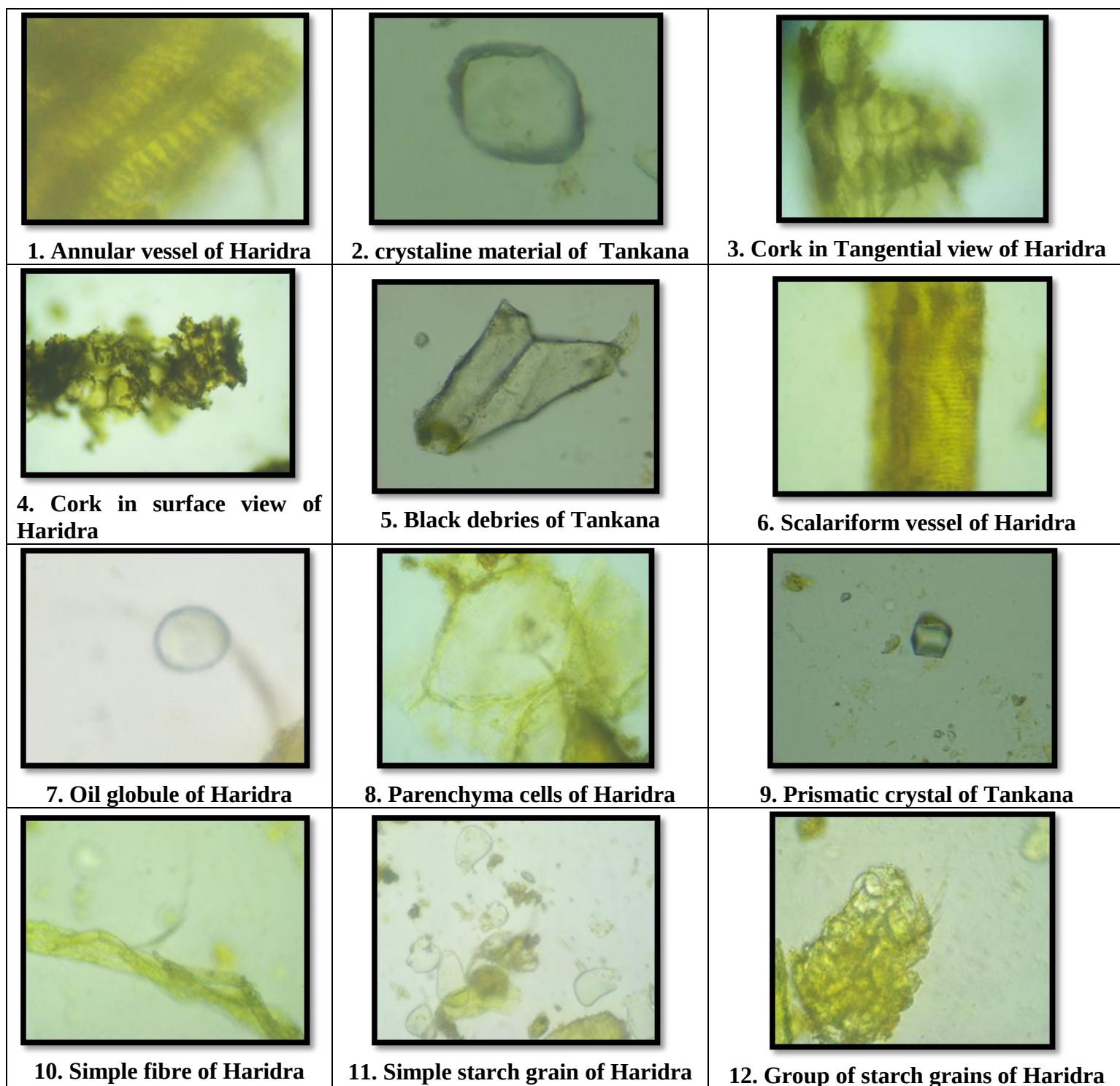


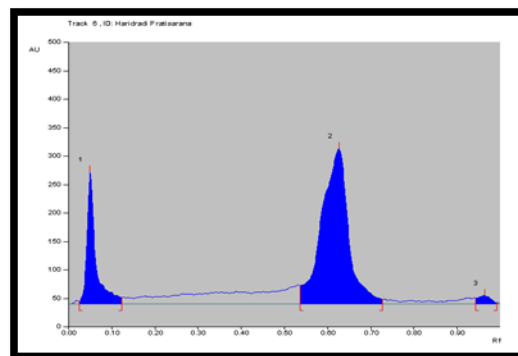
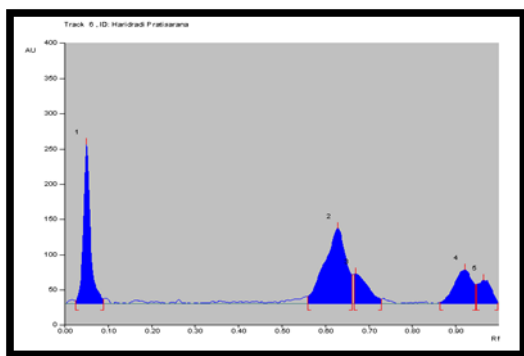
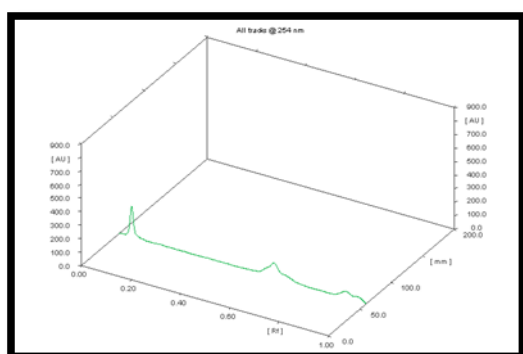
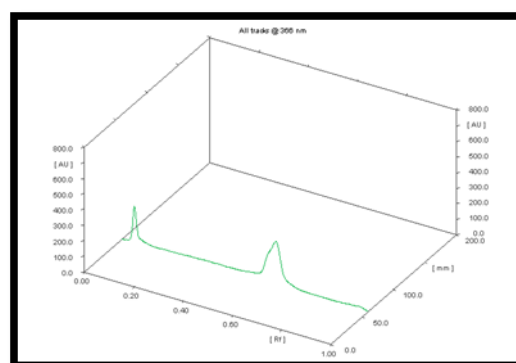
Plate 2: Densitogram of *Haridradi Pratisarana* at 254 nm and 366 nm

Plate 3: Three dimensional HPTLC (3D) Densitogram



254 nm



366nm

Table 1. Ingredients of *Haridradi Pratisarana*: (Anubhuta)

Serial no.	Name of Ingredients	Latin Name	Part
1	Haridra	<i>Curcuma longa</i> (Linn).	1
2	Suddha Tankana	Borax	1/2

Table -2: Organoleptic Characters of *Haridradi Pratisarana*

Serial no.	Character	Observed
1	Colour	Dull yellowish
2	Odour	Aromatic
3	Taste	Piercing Astringent
4	Touch	Fine

Table 3: Pharmaceutical evaluation of *Haridradi Pratisarana*

Serial no.	Test	Result
1	Loss on drying	10.54%w/w
2	Ash value	42.15%w/w
3	Water soluble extract	46.06%w/w
4	Acid soluble extract	32.41%w/w
5	pH	9.00
6	Acid Insoluble Ash	1.47%w/w

Table 4: HPTLC Study of *Haridradi Pratisarana*

Wave Length	Number of spots	Rf values
254 nm	5	0.05,0.63,0.67,0.92,0.96
366nm	3	0.05,0.63,0.96

CONCLUSION

Quality control of Herbo- mineral formulation is very much necessary to assess its safety, purity and universal acceptability. Standardization is a measurement for ensuring the quality control enabling the reproducibility of the formulation. The pharmacognostical and physico chemical analysis of *Haridradi Pratisarana* confirmed the purity and genuinity of the drug. Further studies may be carried out on it 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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