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PharmTech

International Journal of PharmTech Research
CODEN (USA): IJPRIF ISSN : 0974-4304
Vol.2, No.2, pp 1427-1430, April-June 2010

Standardization of Ashokarista Formulation by TLC Method

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Abstract: Ashokarista is ayurvedic herbal remedy with autogenous fermented alcohol with Ashoka (*Saraca indica*) as the chief ingredient used for Rejuvenates female reproductive organs & blood. And is prepared by fermenting the decoction of specified plant materials using flowers of *Woodfordia fruticosa, Cuminum cyminum*, *Nigella sativa* and *Cyperus rotundus*. In present communication, a TLC method was developed for the standardization of Ashokarista by quantitative estimation of major compounds, catachin, (+) catechole, (-) epicatechin. Antibacterial Activity of *Cuminum cyminum* L. Essential Oils as markers. The developed method was validated with respect to linearity, precision, accuracy, and robustness.
Keywords: Ashokarista, Tolune: Ethyl Acetatet: Formic Acid.

Introduction

Ayurveda is a science dealing not only with treatment of some diseases but is a complete way of life.This Indian system of medicine has laid down principles and methods of treatment for various diseases including chronic illnesses where there is no definite curative treatment, and symptomatic relief is the only existing treatment option. The filtered *Asava* or *Arista* should be 'clear without froth at the top. [1] It should not become sour. The preparation has the characteristic aromatic alcoholic odour. Ashokarista is ayurvedic herbal remedy with autogenous fermented alcohol with Ashoka as the chief ingredient. It is also one of the most popular remedy for 'female disorders' or for menstrual disorder and female hormonal imbalances. Nourishes the blood & the reproductive system, Ashokarishta gently maintains healthy production of female hormones, helping to regulate the menstrual cycle & ease the transition into menopause. **Indications:** Rejuvenates female reproductive organs & blood. Balances production of female hormones. Maintains regular & healthy menses, Supports health libido. [2]

Ingredients: Saraca indica,cumin,Woodfordia fruiticosa, Nigella sativa, Cyperus rotundus, Zingiber officinale, Berberis aristata, Nymphaea stellata, Terminalia chebula, Terminalia belerica, Emblica officinalis, Adhatoda vasica, Santalum album.This contains the three fruits used in Triphala, a popular medicine that cleanses and balances the body's energies. It also has ginger to improve digesetion, santalwood to cool inflammation, and cyperus to improve circulation.[3] It sound useful for PMS and menstrual discomforts. Ashokarishta is Ayurvedic medicine against the Relieves back-ache and abdominal pain. The tree is regarded as a guardian of female chastity. [4] The *Vrikshadevatas*---the gods of trees who represent fertility--are known to dance around the tree, and are worshipped by childless women. Herbally, the bark of this tree is a household remedy for uterine disorders. [5] The essence also helps women to be fertile. It is said that 'weeping woman, weeping womb,' in that the woman's emotional state affects her reproductive organs. Cumin is the dried seed of the herb *Cuminum cyminum*, a member of the parsley family. The Cumin plant grows to about 1 to 2 feet tall and is harvested by hand. Cumin is a key component in both Chili Powder and Curry Powder.

Cumin 'seeds' are actually the small dried fruits of the plant. Superstition during the middle Ages cited that Cumin kept chickens and lovers from wandering. [6] It was also believed that a happy life awaited the bride and groom who carried Cumin Seed throughout the wedding ceremony
Cumin is the second most popular spice in the world (black pepper is number one) Cumin is one of the main ingredients in curry powders, and the combination of cumin and coriander leaves gives a characteristic smell to much Indian food. (Ayurvedic Pharmacopoeia). [7] Major chemical contents of Ashoka are alkenes (C20 – C35) esters tannin catachin, (+) catechole, (-) epicatechin. Antibacterial Activity of *Cuminum cyminum* L. Essential Oils.[8]

Materials and Methods

1. Morphology: Plant was morphologically identified for shape of barks, colour, odour, taste, apex and base.

2. Physicochemical parameters:-

Loss on Drying: Weight accurately about 2gm drug (Ashoka) in tarred silica crucible.Incinerate the drugs by gradually increasing the heat until free from carbon and cool it in a dessicator.Weight the loss of drying and calculate the percentage of drug with reference to the dried sample.

Total Ash Values: Tarred silica crucible was weighed.2gm of powdered drug (*Ashoka*) is taken in tarred silica crucible.After that it was subjected to Muffle Furness (S.M. Scientific Instrument Pvt.) at 450 C Temp.Cooled in desicatore. The ash was weighed and the percentage of total ash value calculated. .

Acid Insoluble Ash value: Boil the total ash obtained as above for 5 min with 25 ml of hydrochloric acid (HCl).It was filtered (Grade 4T SD'S clear drop, 90mm code- F0401C10, Circuler-100) and washed residue twice with hot water.Crucible was ignited in the flame, cool and weighed.The residue was weighed and acid insoluble ash of the drug was calculated. .

Water Insoluble Ash value: The total ash obtain was Boil for five min. with 25ml of water. Filtered and collected the insoluble matter on ash less filter paper (Grade 4T SD'S clear drop, 90mm code- F0401C10, Circuler-100). Washed with hot water ignite in crucible cool and keep in dessicator.The residue was weighed and calculated water insoluble ash.

Alcohol soluble extractive value:5gm of the drug was weighed in a weighing bottle and transferred to a dry 250 ml conical flask.100 ml graduated flask filled to the delivery mark with the solvent (90% alcohal). The was weighing bottle washed and poured the washing, together with then reminder of the solvent in to the conical flask. The flask was corked and set aside for 24 hours, shaking frequently.50 ml cylinder was taken and filtered when sufficient filtrate was collected, transferred 25 ml of the filtrate to a weighed, thin porcelain dish, as used for the ash values of determinations. Evaporated to dryness on a water bath and complete the drying in an oven 100c.Cooled in a desicatore and weighed. Percentage w/w of extractive with reference to the air-dried drug was calculated.

Acid soluble extractive value: Take 5gm of Ashoka sample.And transfer in seprate Beakers with the 25ml of hydrochloric acid. And mark it.Then keep in safe placefor 24 hours.After the time filter it by the help of funnel and ash less filter. And filtrate put in beakers and weight with sample then heat at 50 temperatures 45 minute. After the time again weight beakers with sample.For the acid soluble value subtract the final reading to initial reading and note it.

Foreign Matter: Weigh 100 gm sample was taken.Spread sample on a white tile.Sample was inspected by naked eyes or lens (5x or above).Organic matter was separated manually.Separated matter was weigh and calculated. [9]

Identification of marker constituents of *Saraca Indica* by TLC

Test Solution: 0.5g of powdered drug was extracted with methanol (4 x 25 ml) under reflux on a water bath. Methanolic extract was filtered and concentrated and made up the volume to 25ml with methanol.

Solvent System: Tolune: Ethyl Acetatet: Formic Acid: Methenol (3: 3: 0.8: 02)

Procedure: Applied 10ml each of test solution and standard solution on precoated Silica Gel 60 F254 plate of uniform thickness of 0.5mm. The plates were developed in the solvent system.

Visualization: The plates were examined under ultra-violet light at 278nm.

Evaluation:A band (Rf. 0.54) corresponding to (+) Catechin is visible in standard and test solution tracks. [10]Showed in plate no.4.1

Results and discussion

Morphology: Co lour outer side is dark brown or almost with warty surface. With finelongitudinally striations, It has bitter and characteristic taste, Bark has pieces, flat, curved, recurved, in shape,Fracture was short in inner and laminated in outer part. And

Size 8.5cm in length and 6.3cm.in width was observed.

Powder Microscopy Character: Powder of Crude Barks Was Added and Few Drops of Water Mixed properly and Observed under Microscopy Following character was observed: - Fibers, Xylem and pholym, epidermal cell and stomata covering trichrome

Physicochemical parameters:
It is shown in table 1

Analysis of *Saraca Indica* bark by TLC method*:* TLC densitometry estimation of *Saraca Indica.* TLC plates are precoated plates of silica gel 60 F254 (E.merck) of uniform thickness of 0.2 and Solvent system- Tolune: Ethyl Acetatet: Formic Acid: Methenol (3: 3: 0.8: 02) Results are shown in fig. 1 and table2.

Conclusion

The present study involved the standardization of barks of *Saraca Indica*.We had done pharmacognostic study of *Saraca Indica.we* had studied various macroscopic evaluation of *Saraca Indica* .we studied moisture content , total Ash value, Acid insoluble ash value, water soluble extractive value ,alcohol soluble extractive value.

Thin layer chromatographic studies showed the presence of active principles like (+)Catechin on 05.4 Rf value for sample with was more close to standard 0.57 Rf with prominent brown coloration in both This is further suggested that a percolated TLC plate gives perfect and close results which can be repeated in next future. This is best method for Qualitative evaluation of *Saraca indicain* lab scale with very less equipments and expenses.

Table: 1 - Determination of Proximate Analysis of *Saraca indica*

Tests	**Results (in %)**	**Inference (in %)**
Physico-chemical analysis		
Moisture content	5.78	Not more than 8.0
Total Ash content	4.673	Not more than 11.0
Acid insoluble ash	0.325	Not more than 0.6
Alcohol soluble extractive	46.56	Not less than 11.0
Water soluble extractive	35.76	Not less than 10.5
Foreign matter	0.325	Not more than 2.0

Table No. 2:- TLC Screening of *Saraca Indica*

Solvent system used	**Detection reagent**	**Colour of spots**	**Rf value**
Tolune:EthylAcetatet: FormicAcid: ethenol (3: 3: 0.8: 02)	Anisaldehyde Sulphuric Acid	Brown Brown Light Brown Brown	0.24 0.32 0.40 0.54 (+)catechin

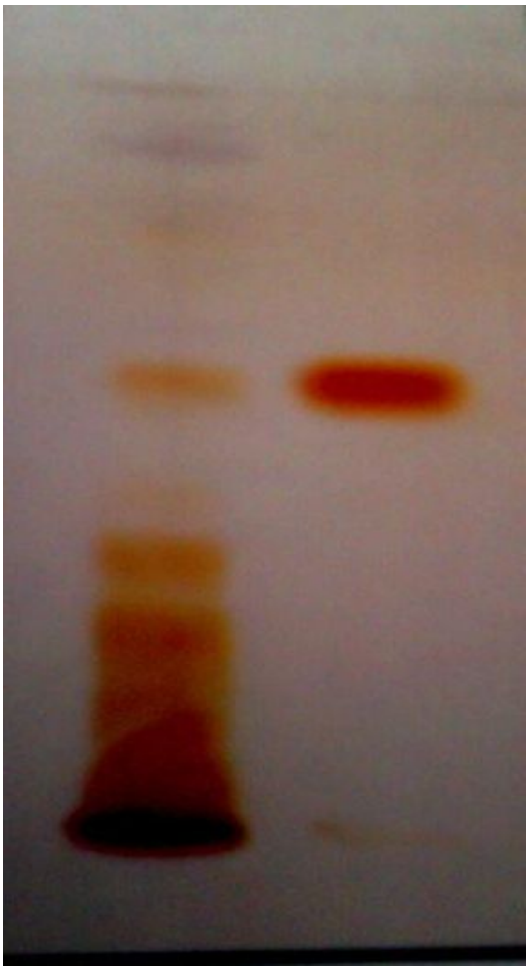

Fig.1 TLC profile of test solution of *Saraca Indica* stem bark
Test solution, (+) Catechin standard

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