

STANDARDIZATION OF THE DURVADI LEPA

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ABSTRACT

Durvadi Lepa which contains *Durva*, *Chakramarda*, *Tulasi*, *Haritaki* and *Saindhav lavana* has described in *Chakradatta* in the management of *Kushtha*. In this formulation mostly drugs have *Kushtaghna* and *Chakramarda* is also mentioned as a ringworm plant having *Dadrughna* (antifungal) action. Here to Treat *Dadru* (Ringworm) local application of *Durvadi Lepa* is selected. The present work was carried out to standardize the finished product *Durvadi Lepa* to conform its identity, quality and purity. The pharmacognostical work of Mixture of *Durvadi Lepa* reveals that presence of fragments of border pitted vessels annular and spiral vessels; fibres, simple and compound starch grains, Prismatic crystals, Silica deposits, A normocytic stomata, seriated unicellular trichomes, Rosette crystals of calcium oxalate, epidermal cells with stomata, parenchyma cell with starch grain, fibres, xylem & phloem, oil globules, Mesocarp cells, Simple pitted vessels and Scalariform vessels had observed microscopically from Mixture of *Durvadi Lepa*. Organoleptic features of *Durvadi Lepa* made out of the crude drugs were within the standard range as mentioned in the classic. Foreign matter was NIL, Loss on drying (110°C) was 5.45%w/w, Total Ash Value was 32.22 % w/w, Acid insoluble Ash value was 3.88% w/w, and Methanol soluble extraction was 8.35 % w/w and water soluble extraction was 45.51% w/w.

KEYWORDS: *Dadru*, *Durvadi lepa*, Pharmacognosy, Pharmaceutics, Ringworm, Standardization.

INTRODUCTION

Dadru is one of the most common but measurable *Twakvikar* affecting all the age of population. *Acharya Charaka* has included *Dadru* in *Kshudrakushtha*^[1] & *Acharya Sushruta* & *Acharya Vagbhatta* included it in *Mahakushtha*.^[2,3] *Dadru* having raised patch associated with itching, redness, & Pimples.^[4] Above Symptomatology of *Dadru* has close resemblance with fungal skin infection as described in modern texts.

Durvadi Lepa (Table 1) which contains *Durva*, *Chakramarda*, *Tulasi*, *Haritaki* and *Saindhav lavana* has described in *Chakradatta* in the management of *Kushtha*.^[5] In this formulation mostly drugs have *Kushtaghna* and *Chakramarda* is also mentioned as a ringworm plant having *Dadrughna* (antifungal) action;

Saindhav Lavan is a *Tridoshaghna*. *Kanji* and *Takra* have *kaphavatanashak*. Hence, the drug *Durvadi Lepa* has been selected for the study. *Chakramard* having *Katu Ras* and *Vipak*, *Ushna Virya* so it acts *Kaphaghan*, *Tulsi* having *Katu*, *Tikta Ras*, *Katu Vipak*, *Ushna Virya* it acts as *kaphaghan*, *Tikta ras* acts as *Pittaghan*, *Durva* Having *Madhur Ras* and *Vipak*, *Sheet Virya* acts as *Pittaghan*, *Haritaki* having *Katu*, *Tikta*, *Kashaya*, *Madhur*, *Amla Ras*, *Ushna Virya*, *Madhur Vipak* acts *Tridoshahar*, *Saindhav Lavan* having *Snigdha*, *Tikshna*, *Sukshma* And *Sheet Virya*, *Madur Vipaki* So acts as *Pittaghan* and *Kaphaghan*. Due to the selected drug having *Kushtaghna*, *Dadrughna*, *Kapha-pitta shamaka*, properties, we can use it in *Dadru*. The present work was carried out to standardize and evaluate the

pharmacognostical as well as to analyze the physico-chemical properties of *Durvadi Lepa*.

MATERIALS AND METHODS

Drug Material: Drugs used in *Durvadi Lepa* i.e. Powder of *Durva*, *Chakramarda*, *Tulasi*, *Haritaki*, *Saindhav lavana*, *Kanji* and *Takra* were prepared in the Dept. of the dept. of Rasashastra & Bhaishajya kalpana, S.C. Mutha Aryngala Vaidyak Mahavidyalaya, Satara. The ingredients and the part used are given in (Table 1).

Method of Pharmacognostical evaluation

Raw drugs were identified and authenticated by the Pharmacognosy lab, S.C. Mutha Aryngala Vaidyak Mahavidyalaya, Satara. The identification was carried out based on the morphological features, organoleptic features and transverse section microscopy of the individual drugs. For pharmacognostical evaluation, drugs studied under the Corl zeiss Trinocular microscope attached with camera, with stain and without stain.^[6] The microphotographs were also taken under the microscope.

Method of Preparation of the *Durvadi Lepa*: *Kalka* of *Durva Panchang* and *Tulsi Patra* each one part has been done than fine powder of *Haritaki*, *chakramarda* and *Saindhav* each one part has been added; After this *kanji* & *Takra* added as a *Bhavana dravya* then *lepa* was prepared in the form of *Lepagoli*.

Method of Physico-chemical evaluation

Durvadi Lepa was analysed by using standard qualitative and quantitative parameters, at the Pharmaceutical Chemistry lab S.C. Mutha Aryngala Vaidyak Mahavidyalaya, Satara. Presence of more moisture content in a sample may create preservation problem. Hence loss on drying.^[7] was also selected as one of the parameters. Water soluble extract, Methanol soluble extract,^[8] Total Ash value and Acid insoluble Ash Value selected as the parameters. Organoleptic parameters, Physico-chemical analysis, investigations were carried out by following standard procedure.

Table 1: Details of *Durvadi Lepa*.

Sr. No.	Drug	Latin Name	Part used	Quantity
1	Durva	Cynodon dactylon	panchang	1 Part
2	Chakramarda	Cassia tora	Beeja (seed)	1 Part
3	Tulasi	Ocimum Sanctum	Patra (leaf)	1 Part
4	Haritaki	Terminalia chebula	Phala (fruit)	1 Part
5	Saindhav lavana	Rock Salt (English name)	Lavan(Salt)	1 Part
6	Kanji & Takra			As required for Bhavana

Table 2: Chemical Analysis of *Durvadi Lepa*.

No.	Name of the Test	Present Study
1	Foreign Matter	NIL
2	Loss of drying (at 110oc)	5.45 %
3	Total Ash Value	32.22%
4	Acid Insoluble Ash	3.88%
5	Methanol soluble extraction	8.35%
6	Water soluble extraction	45.51%

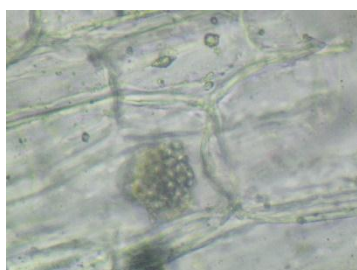


Figure 1: Parenchyma cell with starch grain.



Figure 2: Fragment of border pitted vessels.

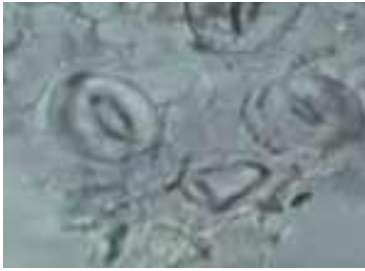


Figure 3: A normocytic stomata.

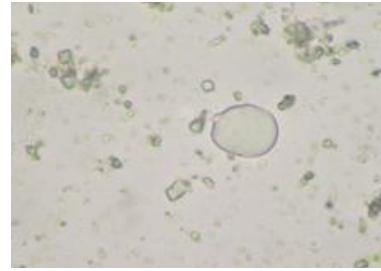


Figure 8: Oil globule.



Figure 4: seriated unicellular trichomes.

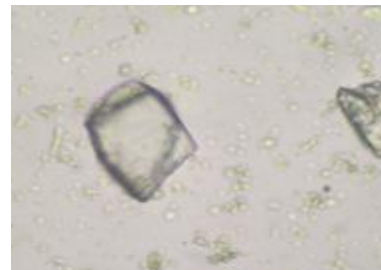


Figure 9: Prismatic crystals.



Figure 5: Rosette crystals of calcium oxalate.

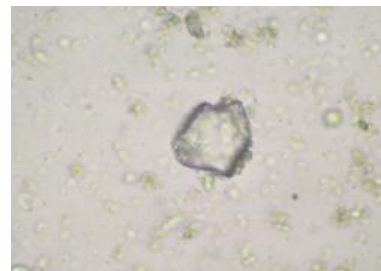


Figure 10: Silica deposits.



Figure 6: Xylem and phloem

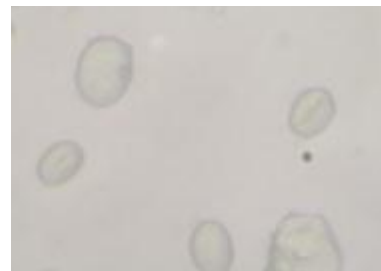


Figure 11: Simple starch grains.

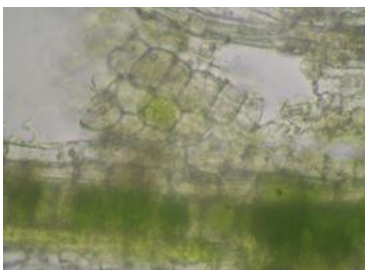


Figure 7: Epidermal cells with stomata.

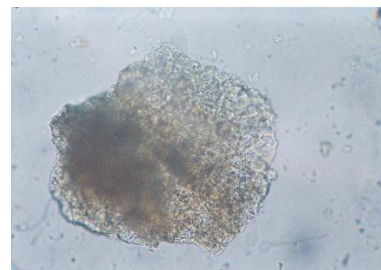


Figure 12: Mesocarp cells

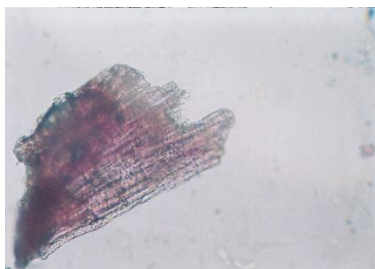


Figure 13: Simple pitted vessels.

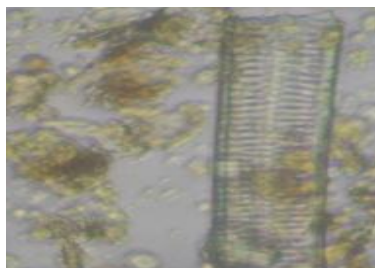


Figure 14: Scalariform vessels



Figure 14: Fiber.

RESULTS AND DISCUSSION

Pharmacognostical study

Microscopically evaluation is very important in the initial identification of ingredients as well as in the detection of adulterations. Identification of original drug is the first step to maintain the quality of the final product. The pharmacognostical work reveals that presence of fragments of border pitted vessels annular and spiral vessels; fibres, simple and compound starch grains, Prismatic crystals, Silica deposits, A normocytic stomata, seriated unicellular trichomes, Rosette crystals of calcium oxalate, epidermal cells with stomata, parenchyma cell with starch grain, fibres, xylem & phloem, oil globules, Mesocarp cells, Simple pitted vessels and Scalariform vessels had observed microscopically from fine powder raw drug of *Durvadi Lepa*. (Figure 1 to 14) All the ingredients were authenticated with help of characters mentioned in the API.

Organoleptic study

Organoleptic evaluation was carried out to assess the color, odor and taste of *Durvadi Lepa*. Organoleptic features of *Durvadi Lepa* were observed like Hard in touch, Brick-red in colour, does not have any specific odour and taste. Comparing API, brown colored of *Haritaki* and *Chakramarda* were found.

Physico- chemical Parameters

Standardization of herbal products is the need of time because of several reasons. Physico- chemical Parameters of the *Durvadi Lepa* like loss on drying, Water soluble extract, methanol soluble extract etc. were examined. (Table 2).

The total ash is particularly important in the evaluation of purity of drugs, i.e. the presence or absence of foreign matter such as metallic salts or silica.^{[9][10][11]} Analytical results showed total ash value^[12] for *Durvadi Lepa* was 32.22% w/w and Acid insoluble Ash value was 3.88%w/w. The alcohol soluble extractive values indicated the presence of polar constituents like phenols, alkaloids, steroids, glycosides, flavonoids.^[13] The alcohol soluble extractive^[14] value In *Durvadi Lepa* was 8.35% w/w and water soluble extraction was 45.51% w/w, which due to its one of contain Saindhav Lavan. Deterioration time of the plant material depends upon the amount of water present in plant material. If the water content is high, the plant can be easily deteriorated due to fungus.^[15] The loss on drying^[16] at 110°C was 5.45 % w/w. there was NIL Foreign matter found in *Durvadi Lepa* Which signifies superior quality of making procedure and raw material.

CONCLUSION

Durvadi Lepa is a potent medicine in the management of disease Ringworm (*Dadru*). Preliminary the morphological features, organoleptic features and powder microscopy of the individual drugs results confirm the genuinity and no adulterants found. For authentication, all the ingredients were compared with the parameters mentioned in API (Ayurvedic Pharmacopeia of India). Phyto-chemical analysis had assessed but still need validation through repeated experiment on different batches with quantity of ingredients. These groundwork requisites for the standardization of *Durvadi Lepa* are covered in the current study, additional important analysis and investigations are required for the identification of all the active chemical constituents of the test drug to substantiate the clinical efficacy.

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