Pharmacogностical and pharmaceutical studies on the Lekhaniya Maha Kashaya

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ABSTRACT

The benign tumor that originates in the uterus it is called a uterine fibroid. The growths are typically benign, or noncancerous. The cause of fibroids is unknown. According to the Office on Women’s Health, up to 80 percent Trusted Source of women have them by the age of 50. However, most women don’t have any symptoms and may never know they have fibroids. In Ayurveda the herbal drugs easily available and no any side effect and an effort by this paper that Lekhaniya Maha Kashaya is useful.

Aim: To standardises Lekhaniya Maha Kashaya pharmacognostically, physiochemically and phytochemically. Materials and Methods: Lekhaniya Maha Kashaya were collected and prepared powder and Yakut in the Pharmacy, GAU, Jamnagar, were identified and authenticated at Pharmacognosy laboratory, IPGT and RA, Jamnagar. Results: The presence of Annular vessels of Haridra, Border pitted vessels of Chitraka, cork cells of Chirabilwa. Cork cells with brown content of Kashta etc. in Pharmacognostical study and in Pharmaceutical study of Lekhaniya maha kashaya powder, Loss on drying 30 % w/w, pH 6.5. Analytical study showed 7 spots at 254 nm and 6 spots at 366 nm and in yavkat. Loss on drying 6.5 % w/w, pH 6.5. Analytical study showed 7 spots at 254 nm and 6 spots at 366 nm Conclusion: These findings could be helpful in identification authentication and standardization of the Lekhaniya Maha Kashaya.

Keywords: Lekhaniya Maha Kashaya Powder and Yavkat, HPTLC, Pharmacognosy, Pharmaceutics, Uterine fibroid.

INTRODUCTION

Uterine fibroids are benign tumors that originate in the womb. It is also called an Uterina myoma. It is not known exactly why women develop uterine fibroids. Most of them (50%) remain asymptomatic. The incidence of symptomatic fibroid in hospital outpatient is about 3%. The prevalence is highest between 35-45 years age group [1]. Most women with uterine fibroid have no symptoms (75%). The symptoms are related to anatomic type and size of the tumor. The common symptoms are menstrual abnormality such as menorrhagia, metrorrhagia, dysmenorrhea, infertility, pressure symptoms, recurrent pregnancy loss (Miscarriage, Pre-term labour), dyspareunia, lower abdominal pain or pelvic pain, abdominal enlargement [2], Churak has mentioned Arbuda in ChikitsaSthana and described Arbuda as shopavishesha (one of the forms of Shotha) [3], Lekhana is the process of scraping or desiccation of all excess Dosh, Dhatu and Mala. That means the drug which rarefies the protoplasmic contents of the tissue cells and thus gradually clears the system of it disarrange constituents is known as Lekhana. As Garbhashaya Arbuda is a Sanga Pradhan vyadhhi Lekhana Karma of Srotas is needed. Therefore, Lekhaniya Maha kashaya Basti has been planned [4].

MATERIALS AND METHOD

Collection of Raw Drug

Lekhaniya Maha Kashaya were collected from pharmacy and identified and authenticated at pharmacognosy laboratory, IPGT and RA, Jamnagar. The ingredients and parts used in the preparation of the final products are listed in (Table 1)

Preparation of the Drug

Powder of Lekhaniya Maha Kashaya Yavkat and powder was prepared in the pharmacy of Gujarat Ayurved University, Jamnagar.
Table 1: Showing contents of Lekhaniya Maha Kashaya

| Drug       | Botanical Name         | Part used       | Ratio |
|------------|------------------------|-----------------|-------|
| Mustaka    | Cyperus rotundus Linn. | Tuber           | 1     |
| Citraka    | Phlambgo zeylanica L.  | Root            | 1     |
| Kusha      | Saussurea lappa       | Root            | 1     |
| Haridra    | Curcuma longa L.      | Rhizome         | 1     |
| Daruhaaridra | Berberis aristate  | Stem Bark       | 1     |
| Athivisa   | Aconitum heterophyllum wall | Root | 1     |
| Chirabilva | Holoptelia integrifolia | Bark, Seed     | 1     |
| Haimavati  | Iris versicolor       | Root            | 1     |
| Vacha      | Acorus Calamus Linn.  | Rhizome         | 1     |
| Katuka     | Picrorhiza kurrooa    | Root and rhizome | 1     |

PHARMACOGNOSTICAL STUDY

The pharmacognostical study comprise of organoleptic study of finished product, Lekhaniya Maha Kashaya Powder

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. [5, 6] (Table 2)

Microscopic study

Lekhaniya Maha Kashaya was powdered and dissolved with water and microscopy of the sample was done without stain and after staining with phloroglucinol + HCL.Microphotograph of Lekhaniya Maha Kashaya was taken under Corl-zeiss trinocular microscope [7, 8, 9, 10].

PHARMACEUTICAL EVALUATION

Physico-chemical parameters of Lekhaniya Maha Kashaya Powder and Yavkuta

This Churna was analyzed using various standard physicochemical parameters such as, Loss on drying, pH, water soluble extract, methanol soluble extract and ash value as per API at the pharmaceutical chemistry lab, IPGT& RA [11], (Table 3) (Table 4)

High Performance Thin Layer Chromatography (HPTLC) Of Lekhaniya Maha Kashaya Powder and Yavkuta

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 (14:4:2) solvent system and observed under visible light. The colour and Rf values of resolved spots were noted. Analytical study showed 7 spots at 254 nm and 6 spots at 366 nm [12], (Plate 1) (Plate 2)

RESULTS AND DISCUSSION

Microscopic Characters of Lekhaniya Maha Kashaya Powder

Microscopic evaluation of Lekhaniya Maha Kashaya Powder was conducted. Characters were noted down and microphotographs were taken they are Figure 01. Annular vessels of Haridra, Figure 02.Border pitted vessels of Chitraka, Figure 03. Annular vessels of Haridra, Figure 04. Cork cell of Musta, Figure 05. Cork cell with brown content of Kustha, Figure 06. Crystal fiber of Daruhaaridra, Figure 07. Cystolyth of Chirabilwa, Figure 08. Exoderm cell of Ativisha, Figure 09. Fibers of Haimavati, Figure 10. Fibers of Musta, Figure 11. Fibers passing through medullary rays of Chirabilwa, Figure 12. Group of starch grains of Ativisha, Figure 13. Group of starch grains of Vacha, Figure 14. Lignified border pitted Chitraka, Figure 15. Lignified parenchyma cell of Chitraka, Figure 16. Oil globules of Kustha, Figure 17. Oil globules of Haimavati, Figure 18. Parenchyma cell of Haridra, Figure 19. Prismatic crystal of Daruhaaridra, Figure 20. Prismatic crystal of Kustha, Figure 21. Scleriform vessels of Haridra, Figure 22. Silica deposition of Musta, Figure 23. Starch grains of Chitraka, Figure 24. Starch grains of Haimavati, Figure 25. Starch grains of Katuki, Figure 26. Starch grains of Vacha, Figure 27. Stone cell of Daruhaaridra, Figure 28. Tannin content of Chitraka

Plate 1: Pharmacognostical study of Lekhaniya Maha Kashaya powder

Figure 1: Annular vessels of Haridra

Figure 2: Border pitted vessels of Chitraka

Figure 3: Annular vessels of Haridra

Figure 4: Cork cells of Musta

Figure 5: Cork cells with brown content of Kustha

Figure 6: Crystal fibre of Daruhaaridra

Figure 7: Cystolyth of Chirabilwa

Figure 8: Exoderm cells of Ativisha
Table 2: Organoleptic characters of *Lekhaniya Maha Kashaya* Powder

| Sr. No. | Characters | Results        |
|---------|------------|----------------|
| 1       | Colour     | Yellowish brown|
| 2       | Odour      | Slightly aromatic|
| 3       | Taste      | Astringent     |
| 4       | Touch      | Fine powder    |

Table 3: Physico-chemical analysis: *Lekhaniya Maha Kashaya* Powder

| Sr. No. | Test                  | *Lekhaniya Powder* |
|---------|-----------------------|--------------------|
| 1       | Loss on drying        | 30 % (w/w)         |
| 2       | Water soluble extract | 12.5 % (w/w)       |
| 3       | Alcohol soluble extract | 5.0 % (w/w)     |
| 4       | pH                    | 6.5                |
| 5       | Ash value             | 21 % (w/w)         |
Table 4: Physico-chemical analysis: Lekhaniya Maha kashaya Yavakuta

| Sr. No | Test                  | Lekhaniya Maha kashaya |
|--------|-----------------------|------------------------|
| 1      | Loss on drying        | 6.5 % (w/w)            |
| 2      | Water soluble extract | 17.5 % (w/w)           |
| 3      | Alcohol soluble extract | 9.5 % (w/w)          |
| 4      | pH                    | 6.5                    |
| 5      | Ash value             | 9.6 % (w/w)            |

Plate 1: Densitogram curve of Methanol extract of Lekhaniya Maha Kashaya Powder

CONCLUSION

The present study provides various resourceful information in relation to pharmacognostical identification of Lekhaniya Maha Kashaya and physico-chemical parameter also helpful for standardization of Lekhaniya Maha Kashaya. This finding could be helpful in identification, authentication and standardization of this formulation.

REFERENCES

1. Dutta’s DC. Text book of Gynaecology, edited by Konrar, Hiralal, 6th edition, New Central Book Agency Ltd. Kolkata, Page No. 272.
2. Dutta’s DC. Text book of Gynaecology, edited by Konrar, Hiralal, 6th edition, New Central Book Agency Ltd. Kolkata, Page No. 276.
3. Agnivesha, Charaka, Drishabala, Charaka Samhita, ChikitsaSthana, Shwayathu Chikitsa Adhyaya, 12/74, edited by Vaidya JadavjiTrikamji Acharya, reprint ed. Chowkhanibha Orientalia, Varanasi, 2011; p-488.
4. Kashinath SP, Gorakhanatha C, editor, Charaka Samhita of Agnivesha,Shutra Sthana. Reprint edition. Ch. 04/03, Varanasi: Chaukhamba Sanskrit Sansthan; 2014. p. 1067.
5. Anonymous, The Ayurvedic Pharmacopoeia of India, Ministry of Health and Family welfare, Department of AYUSH, Government of India, New Delhi, ed. 1st(2001), Part 1, Vol IV, pg 136
6. Anonymous, The Ayurvedic Pharmacopoeia of India, Ministry of Health and Family welfare, Department of AYUSH, Government of India, New Delhi, ed. 1st(2001), Part 1, Vol III, pg 39.
7. Khandelwal KR, Examination of powdered drug, Practical pharmacognosy techniques and experiments, Nirali Prakashan Pune, 19th ed., (2008), pg 162.
8. Kokate CK, Purohit AP, Gokhale SB, Analytical Pharmacognosy, Drug Evaluation, Nirali Prakashan Pune, 19th ed., (2008), pg 6.3-6.13
9. Anonymous, The Ayurvedic Pharmacopoeia of India, Ministry of Health and Family welfare, Department of AYUSH, Government of India, New Delhi, ed. 1st(2008), Part 2, Vol 1, pg 136-139.
10. Tease and Evans, Pharmacognosy, 15th Ed., W.B. Sanders Company Ltd. 1996 p.569, 570.
11. Ayurvedic Pharmacopoeia of India PDF-1, Govt. of India, Ministry of health and family welfare, Delhi, 2007; 5, appendix-2.2.5: 214.
12. Stahl E; Thin-layer chromatography a laboratory hand book. 2nd edition. Springer-Verlag New York, 1969; 125-133.

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