Pharmacogostrical and pharmaceutical studies on the Lekhaniya Maha Kashaya

Gaurav Balat*, L.P. Dei, Ankit Garg, Harisha CR, V.J. Shukla

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 standardies Lekhaniya Maha Kashaya pharmacognostically, physiochemically and phytchemically. Materials and Methods: Lekhaniya Maha Kashaya were collected and prepared powder and Yavikut 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 Kaatha etc. in Pharmacognostical study and in Pharmacutical 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 Yavkuta, 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, infertiltiy, pressure symptoms, recurrent pregnancy loss (Miscarriage, Pre-term labour), dyspareunia, lower abdominal pain or pelvic pain, abdominal enlargement [2], Charak has mentioned Arbuda in ChikitsaSthana and described Arbuda as shopavisesha (one of the forms of Shotha) [3]. Lekhana is the process of scraping or desiccation of all excess Doshha, 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 Pradhana 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 Yavikut and powder was prepared in the pharmacy of Gujarat Ayurved University, Jamnagar.
Table 1: Showing contents of Lekhaniya Maha Kashaya

<table>
<thead>
<tr>
<th>Drug</th>
<th>Botanical Name</th>
<th>Part used</th>
<th>Ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mustaka</td>
<td>Cyperus rotundus Linn.</td>
<td>Tuber</td>
<td>1</td>
</tr>
<tr>
<td>Citraka</td>
<td>Plumbago zeylanica L.</td>
<td>Root</td>
<td>1</td>
</tr>
<tr>
<td>Kushta</td>
<td>Sausurea lappa</td>
<td>Root</td>
<td>1</td>
</tr>
<tr>
<td>Haridra</td>
<td>Carcuma longa L.</td>
<td>Rhizome</td>
<td>1</td>
</tr>
<tr>
<td>Daruharidra</td>
<td>Berberis aristate</td>
<td>Stem Bark</td>
<td>1</td>
</tr>
<tr>
<td>Athivirus</td>
<td>Aconitum heterophyllum wall</td>
<td>Root</td>
<td>1</td>
</tr>
<tr>
<td>Chirabilwa</td>
<td>Holoptelia integrifolia</td>
<td>Bark, Seed</td>
<td>1</td>
</tr>
<tr>
<td>Haimavati</td>
<td>Iris versicolor</td>
<td>Root</td>
<td>1</td>
</tr>
<tr>
<td>Vacha</td>
<td>Acorus Calamus Linn.</td>
<td>Rhizome</td>
<td>1</td>
</tr>
<tr>
<td>Katuka</td>
<td>Picrorhiza kurrooa</td>
<td>Root and rhizome</td>
<td>1</td>
</tr>
</tbody>
</table>

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 Kushta. Figure 06. Crystal fiber of Daruharidra. 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 Kushta. Figure 17. Oil globules of Haimavati. Figure 18. Parenchyma cell of Haridra. Figure 19. Prismatic crystal of Daruharidra. Figure 20. Prismatic crystal of Kushta. Figure 21. Spiraliform 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 Daruharidra. 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 Kushta.

Figure 6: Crystal fibre of Daruharidra

Figure 7: Cystolyth of Chirabilwa

Figure 8: Exoderm cells of Ativisha
Figure 9: Fibres of *Haimavati*.

Figure 10: Fibres of *Musta*.

Figure 11: Fibres 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 cells of *Chitraka*.

Figure 16: Oil globule of *Kustha*.

Figure 17: Oil globule of *Haimavati*.

Figure 18: Parenchyma cells of *Haridra*.

Figure 19: Prismatic crystal of *Daruharidra*.

Figure 20: Prismatic crystal of *Kastha*.

Figure 21: Scalariform 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 cells of *Daruharidra*.

Figure 28: Tannin content of *Chitraka*.

Table 2: Organoleptic characters of *Lekhaniya Maha Kashaya* Powder

<table>
<thead>
<tr>
<th>Sr. No.</th>
<th>Characters</th>
<th>Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Colour</td>
<td>Yellowish brown</td>
</tr>
<tr>
<td>2</td>
<td>Odour</td>
<td>Slightly aromatic</td>
</tr>
<tr>
<td>3</td>
<td>Taste</td>
<td>Astringent</td>
</tr>
<tr>
<td>4</td>
<td>Touch</td>
<td>Fine powder</td>
</tr>
</tbody>
</table>

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

<table>
<thead>
<tr>
<th>Sr. No.</th>
<th>Test</th>
<th><em>Lekhaniya Powder</em></th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Loss on drying</td>
<td>30 % (w/w)</td>
</tr>
<tr>
<td>2</td>
<td>Water soluble extract</td>
<td>12.5 % (w/w)</td>
</tr>
<tr>
<td>3</td>
<td>Alcohol soluble extract</td>
<td>5.0 % (w/w)</td>
</tr>
<tr>
<td>4</td>
<td>pH</td>
<td>6.5</td>
</tr>
<tr>
<td>5</td>
<td>Ash value</td>
<td>21 % (w/w)</td>
</tr>
</tbody>
</table>
Table 4: Physico-chemical analysis: Lekhaniya Maha kashaya Yavkuta

<table>
<thead>
<tr>
<th>Sr. No</th>
<th>Test</th>
<th>Lekhaniya Maha kashaya</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Loss on drying</td>
<td>6.5 % (w/w)</td>
</tr>
<tr>
<td>2</td>
<td>Water soluble extract</td>
<td>17.5 % (w/w)</td>
</tr>
<tr>
<td>3</td>
<td>Alcohol soluble extract</td>
<td>9.5 % (w/w)</td>
</tr>
<tr>
<td>4</td>
<td>pH</td>
<td>6.5</td>
</tr>
<tr>
<td>5</td>
<td>Ash value</td>
<td>9.6 % (w/w)</td>
</tr>
</tbody>
</table>

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

Plate 2: Densitogram curve of Methanol extract of Lekhaniya Maha Kashaya Yavakut

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

11. Ayurvedic Pharmacopoeia of India PDF-1, Govt. of India, Ministry of health and family welfare, Delhi, 2007; 5, appendix-2.2.9: 214.

HOW TO CITE THIS ARTICLE