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Research Article

ROLE OF *LODHRA* AND *NYAGRODHA* IN *SHVETA PRADARA*-COMPARING TWO DIFFERENT MODALITIES OF TREATMENT

Priya Sharma Sabarad[1]*, Jayasudha G.C[2], Ramesh M[3]

*[1]Assistant Professor, Department of Prasootitantra & Striroga, B.L.D.E's A.V.S Ayurveda Mahavidyalya, Vijayapura, Karnataka, India.

[2]Assistant Professor & Co-Guide, Dept. of Prasutitantra and Striroga, SKAMCH & RC, Bangalore, Karnataka, India.

[3]Professor & Guide, Dept. of Prasutitantra and Striroga, SKAMCH & RC, Bangalore, Karnataka, India.

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ABSTRACT

In the present world, a woman has to play an active role in home as well as social and professional arena. While trying to strike a balance, she tends to neglect her health, which leads to various problems. *Shveta pradara* (excessive white discharge p/v) is one such problem faced by women of all age groups. This problem is a cause of major concern these days due to its recurrent nature as well as immense discomfort that it causes. Not only this, it causes other associated problems like lower back ache, dyspareunia etc. If left untreated, it causes complications such as pelvic inflammatory disease and even infertility. In the present study, 40 diagnosed patients of *Shveta pradara* (excess white discharge per vaginum) between age group 18 - 45 years were selected and divided into two groups: Group A and Group B, where each group had 20 patients. Group A-*Yoni prakshalana* (vaginal wash) with *Kashaya* (decoction) prepared from bark (*Twak*) of *Lodhra* as well as *Nyagrodha* was done for 7 consecutive days along with *Pathya ahara vihara* (congenial diet and lifestyle advice). Group B- were given *Lodhra Twak* (bark) *Churna* (fine powder) of 4g with *Nyagrodha twak kashaya* of 16ml. orally with luke warm water as *Anupana* (adjuvant) for 10 consecutive days along with *Pathya ahara vihara*. On comparing the two groups, it was found that the efficacy of treatment in Group A was better than efficacy of treatment in Group B which means that *Yoni prakshalana* had a better effect on *Shveta pradara*.

KEYWORDS: *Shveta pradara*, *Yoni prakshalana*, Excess White Discharge per vaginum, *Lodhra twak churna*, *Lodhra* and *Nyagrodha twak kashaya*, *Pathya ahara vihara.*

INTRODUCTION

In *Ayurveda,* a disease can be explained on the basis that the inherent weakness in a particular system leads to *Sroto dushti* (structural or functional defect of channels of that system) thereby making it easy for the *Samprapti* (pathogenesis) of the disease to occur in that system or *Srotas*, thereby causing *Roga*. *Shveta pradara* can also occur were the *Artavavaha srotas* (Channels related to menstrum) gets affected due to *Kha vaigunya* (impairment of system) previously existing there along with *Kapha* (one of 3 organising principles in *Ayurveda* formed by combination of water and earth. This is responsible for stability of body & cohesion) [3] and *Vata prakopaka nidana sevana* by the *stri* (lady) thus causing *Ati srava* (excess flow) in form of *Shveta pradara* from the *Yoni pradesha* (vagina). Some amount of vaginal discharge is always present in a healthy female which might vary with her menstrual cycle, sexual activity etc. whereas abnormal white discharge per vaginum is a resultant of various factors such as decreased immunity of the female, malnutrition, non-maintenance of local hygiene, infected sexual partner etc. There occurs transudation across vaginal mucosa due to differential pressure between vaginal vault and the capillaries in the vagina, thereby leading to excess discharge from the area. This discharge when gets infected due to various reasons becomes more troublesome because it shows additional symptoms like itching, foul smell apart from discomfort. Proteins play a vital role in constantly repairing the squamous epithelium of the vagina, so any sort of protein deficiency is bound to lead to problems such as *Shveta pradara*. *Atisrava* from *Yoni pradesha* is a cardinal feature of *Shveta pradara*. If *Kapha* is pre dominant- *Kandu* (itch) will be

present as a *Roopa* (symptom) and the *Varna* (colour) of *Srava* (discharge) will be *Shveta* (off white) which is comparable to candida infections which has thick creamy discharge accompanied with itching. If *Pitta* (one of 3 organising principles in *Ayurveda* formed by combination of fire and water, responsible for metabolism in body), *Daha* (burning) and *Durgandhi*[4] (foul smell) will be present as a *Roopa* and the *Varna* of the *Srava* will be *Pandura* (yellowish white) which is very close to chlamydia infections which has yellow - white coloured discharge which is mucopurulent. If *Vata* is pre dominant-*Yonishoola* (pain in vagina) *Maithuna asahishnuta* (dyspaurenia) will be present as a *Roopa* and *Srava* will be thin or frothy in consistency with itching which is very similar to trichomonas infection. The combination of two or all three *Dosha*s (the 3 fundamental principles formed by combination of two elements each & form the basis of homeostasis) leads to mixed symptoms of the two *Dosha*s with one *Dosha* being pre dominant. In similar way, two or more kinds of microbes may co- exist leading to mixed associated symptoms. If all these symptoms are seen in combination, it can be concluded that all the three *Dosha*s are vitiated which has close resemblance with acute infective disorders of reproductive system or gynaecological disorder developing due to disease of other systems. [5] This combination of all three *Dosha*s can also be compared to Bacterial Vaginosis[6] wherein greyish white thin consistency discharge which is malodourous is seen. The *Anya lakshana* (other symptoms) like *Katishoola* (backache) occurs mainly due to *Apana vata* (*Vata* subtype governing functioning of female genitals) vitiation affecting pelvic muscles and joints. *Ayurveda* has a unique approach in treatment of such disease, wherein local as well as systemic treatment is given along with following proper *Pathya*s. This unique approach cures the disease from the root level or *Srotas* level along with providing adequate *Poshana* (nutrition) to the diminished or vitiated *Dhatus* (body elements) without any side effects if proper *Pathya* (congenial regimen) is followed by the patient as advised. This approach of *Ayurveda* is being applied in the current study to treat the burning problem of *Shveta pradara*

Materials and Methods: The study aims to compare the efficacy of two different modalities of treatment mentioned by two *Acharyas, Charaka* (oral) and *Vagbhata (Yoni prakshalana)* for the treatment of *Shveta pradara* using same *Dravyas* (drugs) i.e., *Lodhra (Symplocos racemosa)* and *Nyagrodha* (*Ficus bengalensis)*

Diagnostic Criteria: Patients were diagnosed as per diagnostic criteria of *Shveta pradara* and divided into 2 groups.

ASSESSMENT CRITERIA: Signs and symptoms were assessed using the following objective and subjective parameters: *Srava* (Vaginal Discharge), *Kandu* (Vaginal itching), *Kati Shoola*, *Durgandha* (Foul smell), Evidence of Pruritus (red swollen vulva, vagina- on examination), Per speculum vaginal examination (evaluation of excessive discharge)

LABORATORY INVESTIGATIONS: Blood -Hb%, TLC, DLC, ESR, RBS, Urine - Routine, Vaginal swab culture, Examination of specimen slide (vaginal fluid sample-wet slide)

STUDY DESIGN

The study was conducted in Department of Prasooti Tantra evam Stri Roga, S.K.A.M.C.H&RC, Bangalore, Karnataka. Diagnosed patients were randomly divided into two groups.

Group A: 20 diagnosed patients of *Shveta pradara*, were treated with *Yoni prakshalana*[1], following all aseptic measures, with *Nyagrodha* and *Lodhra Kashaya*, once in a day for 7 consecutive days.

Group B: 20 diagnosed patients of *Shveta pradara*, were treated with oral medication. Oral medication comprised of - *Lodhra Kalka* and *Nyagrodha twak kashaya*[2] mixed with each other. *Anupana* - warm water

Lodhra kalka (paste) - 4g[7] mixed with 16ml[8] *Nyagrodha kashaya* 3 times a day. Duration – for 10 consecutive days.

Post-trial assessment was done on 7th day for Group A.

Post-trial assessment was done on 10th day for Group B.

Follow up: 1st Follow Up-7 days after completion of treatment in both groups.

2nd Follow Up-14thday from completion of treatment in both groups.

Table1: Inclusion criteria and Exclusion criteria

Inclusion criteria	Exclusion criteria
Cases diagnosed as having *Shveta pradara* (excess vaginal discharge) with or without pruritus and/or foul smell	Systemic Illness, cervical disease, pregnant females, S. T. D's and P. I. D
Patients within the age group of 18-45 yrs	Women below 18 years and above 45 years
Married women	Unmarried women

Assessment Criteria

***Srava* (Discharge)**

No Vaginal discharge : 0
Occasional wetting of undergarments/ slight discharge, vulval moistures : 1
Moderate discharge wetting undergarments : 2
Heavy discharge which needs pads : 3

***Kandu* (Itching)**

No itching : 0
Occasional itching (Mild, feeling of irritability, no need of medicine) : 1
Moderate (Disturbs daily routine, need of medicine and relief after medicine Increases after specific time (Micturition) : 2
Constant (Severe, affects routine activity, no relief after taking medicine) : 3

***Durgandha* (Foul smell)**

Present : 1
Absent : 0

***Kati Shoola* (lower backache)**

No Pain : 0
Mild (At the time of menses, with excessive work load, intercourse. No interference with daily routine) : 1
Moderate (Continuous, relief after taking medicine, no interference with daily routine) : 2
Severe (*Tivra Shoola* (severe pain) no relief after taking medicine) : 3

***Mootra Daha* (Burning micturation)**

Absent : 0
Occasional (Mild bearable *Daha* or burning) : 1
Moderate (troublesome *Daha*) : 2
Severe *Daha* (patient wants to avoid Micturation) : 3

ON EXAMINATION

Pruritus

No Evidence of Itching on Vulva : 0
Edematous vulva : 1
Reddish Discolouration on vulva : 2
Rashes in Vulva And Thighs with Edema : 3

Amount of Discharge

Scanty : 0
Moderate : 1
Hair get matted (pubic hair) : 2
Discharge From introitus : 3

Inflammation of Vagina

No inflammation on vagina : 0
Very less inflammation with redness found on vaginal walls with slight rise in temperature : 1
Inflammation, redness and moderate raise in temperature : 2
Inflammation, deep red and markedly raised temperature found in the vagina : 3

Table 2: Observations and Results

Parameter observed (in majority patients)	Observations (no. of patients in %)
Age group	37. 5% -21-30Yrs, 35% - 31-40yrs. 17. 5%-41-50 yrs 10%-<20 yrs
Mode of last delivery	80%-FTND 10%-LSCS 10%-Never Conceived

Parity	37. 5% P2, 17. 5% P1 17. 5%-P4 7. 5%-P3 7. 5%-P5 2. 5%-P9
Contraceptive use	37. 5%-Tubectomised 22. 5%-use nothing 20%-Barrier methods 10%-I. U. C. D's 10%-O. C. P's
Nature of Discharge	40%-thin mucoid 30%-mucoid 17. 5%-Curdy discharge 12. 5%-Watery
Colour of Discharge	72. 5%- white 20%-yellow 7. 5%-creamy
Associated Complaints	1. *Katishoola*-97. 5% 2. *Mutra daha*-60% 3. *Kandu*-92. 5% 4. *Maithuna asahishnuta*-30%
Tenderness of vagina (O/E)	62. 5%-present 37. 5%-absent
Dominant micro-organism seen in culture	42. 5%-Staphylococcus aureus 20%-no organism seen 15%-E. coli 10%-Enterococcus sps. 7. 5%-Candida sps. 5%-Pseudomonas aeruginosa
Mean Hb%	9. 73-9. 98
Mean RBS (mg/dl)	Group A-98. 84 Group B-91. 85

Table 3: Statistical analysis on overall parameters

Srava	Pooled SE	T Value	P Value	Remarks
BT	0. 21	1. 42	>0. 05	N. S
AT	0. 18	1. 91	<0. 05	S
AT1	0. 19	4. 47	<0. 005	H. S
AT2	0. 19	4. 47	<0. 005	H. S
Kandu				
BT	0. 27	-1. 28	>0. 05	N. S
AT	0. 16	-0. 31	>0. 05	N. S
AT1	0. 16	0. 61	>0. 05	N. S
AT2	0. 20	1. 24	>0. 05	N. S
Katishoola				
BT	0. 25	-0. 80	>0. 05	N. S
AT	0. 14	1. 75	<0. 05	S
AT1	0. 18	1. 62	>0. 05	N. S
AT2	0. 20	1. 75	<0. 05	S
Durgandha				
BT	0. 22	1. 11	>0. 05	N. S
AT	0. 11	0. 87	>0. 05	N. S
AT1	0. 10	2. 52	<0. 05	S
AT2	0. 12	2. 15	<0. 05	S

Mutradaha				
BT	0. 29	-1. 03	>0. 05	N. S
AT	0. 14	-0. 37	>0. 05	N. S
AT1	0. 14	0. 74	>0. 05	N. S
AT2	0. 15	1. 38	>0. 05	N. S
P/V Discharge				
BT	0. 22	0. 90	>0. 05	N. S
AT	0. 16	3. 16	<0. 005	H. S
AT1	0. 20	3. 73	<0. 005	H. S
AT2	0. 24	0. 24	<0. 005	H. S
Pruritus				
BT	0. 28	-1. 08	>0. 05	N. S
AT	0. 05	-1. 00	>0. 05	N. S
AT1	0. 10	1. 04	>0. 05	N. S
AT2	0. 13	0. 00	>0. 05	N. S
Vaginal Inflammation				
BT	0. 20	-1. 44	>0. 05	N. S
AT	0. 22	0. 68	>0. 05	N. S
AT1	0. 21	1. 40	>0. 05	N. S
AT2	0. 19	2. 06	<0. 05	S

On comparing the efficacy of treatment in between the two groups, higher T values seen in Group A signify better outcome to treatment on *Srava, Kandu, Katishoola, Mutradaha* amount of discharge p/v, pruritus and vaginal inflammation in this group whereas the efficacy of treatment on *Durgandha* is found to be better in Group B shown by the higher T values.

DISCUSSION

The drugs taken for the study are *Lodhra* i.e., *Symplocos racemosa* and *Nyagrodha* i.e. *Ficus bengalensis.* As per modern sciences, *Lodhra* bark has mainly astringent and anti-inflammatory properties along with antioxidant, anti-ulcer, anti-tumour as well as anti-bacterial activity. All these in combination act on excessive vaginal secretion as well as other associated symptoms of *Shveta pradara*. Astringent action of *Kashaya rasa* (astringent) acts as local protein precipitant. They reduce the permeability of cell membranes. These are used therapeutically to reduce inflammation of mucous membranes and promote healing.

Ficus bengalensis has the highest amount of tannins in it out of all *Panchvalkala dravyas* (group of five astringent barks). Tannins have been reported to be bacteriostatic or bactericidal against *Staphylococcus aureus.*[9] Tannic acid may work to chelate iron from the medium and make iron unavailable to microorganisms. Microorganisms growing under aerobic conditions need iron for a variety of functions, including reduction of the ribonucleotide precursor of DNA, formation of haem, and other essential purposes. Tannic acid inhibited the growth of all 15 types of bacteria. [10] The bark of *Ficus bengalensis* exhibited significant antibacterial activity against pathogenic bacteria like *Staphylococcus aureus*, *Pseudomonas aeruginosa* and *Klebsiella pneumonia*. The Ficus plant extracts were found to inhibit the growth of Gram positive bacteria as well as the Gram negative bacteria and also the fungal species

Probable Local Effect of *Yoni prakshalana*: (based on *Ayurvveda* and modern sciences) *Vrana Shodhana* (purifying) Property of *Lodhra*[11] and *Nyagrodha* cleanses the vagina (*Yoni Shodhana*) 2. *Kledahara* (removal of excess moisture) *Shoshana* (drying) property diminishes the *Srava* (flow) 3. *Krimighna* (wormicidal, bacteriocidal) and *Ropana* (healing) property has action on *Yonigata Krimis* or Microbes 4. *Rasayana* (antioxidant), *Ropana, Sandhankara* (unites or builds) *Brimhana* (strengthening) property helps to Heal and Rejuvenate Vaginal Epithelial Cells. 5. Anti- Microbial, Anti -Fungal, Anti- Bacterial Property Inhibits the Growth of Micro Organisms, 6. Astringent Property diminishes Excessive Secretion from Vagina

Probable Systemic Effect of Oral Intake of *Lodhra* and *Nyagrodha Churna*

Modern chemical constituents: Loturine and collutrine present in *Lodhra* are said to be anti - microbial and anti- helminthic in action, whereas the tannins and flavonoids present in *Nyagrodha* bark are said to be astringent in action. So in combination, these two acts on *Shveta pradara* by acting on the microbes locally, as well as causing

vasoconstriction locally, ultimately reduces the excess discharge per vaginum.

Mode of action in *Ayurveda*: Both these drugs are *Kashaya rasa pradhana*, so as per *Charaka's* description in *Sutra sthana* 26 chapter (43 verse) *Kashaya rasa* is *Sangrahi* (unifies) does *Ropanakarma*, is *Shoshana* and *Stambhana* in action as well as *Shleshma rakta pitta prashmana* (pacifies or purifies) absorbs excess *Kleda* (moisture) from the body and is *Ruksha* (dry). So both these drugs when taken via oral route does *shoshana* of excess *Kleda* produced in *Shveta pradara*, does the *Shamana* or pacification of vitiated *Kapha* as well as *Pitta*, and does *Stambhana* as well as *Rukshana karma*, thereby decreasing the *Srava* as well as *Kandu* produced by excessive *Srava*. By doing this, these drugs also facilitate proper *Poshana* of the *Dhatus* by pacifying *Kapha* as well as *Pitta*, and in turn proper functioning of *Rasavaha* as well as *Artavavaha srotas*, which are mainly vitiated in *Shveta pradara*.

CONCLUSION

Shveta pradara is a common disease in women especially in reproductive age group (37. 5% in age group 21- 30 years). Improper hygiene, food habits, stress and low Hb% signifying diminished immunity emerged as the major causes of *Shveta pradara*. *Yoni prakshalana* described by *Vagbhatta* emerged better in terms of treating the signs and symptoms such as *Atisrava*, *Kandu*, *Mutradaha*, *Katishoola* in comparison to same drugs when given orally as mentioned by *Acharya Charaka* in *Charaka samhita*. The treatment was cost effective in both groups. Some side effects were observed in oral use of *Lodhra* and *Nyagrodha* like constipation. This can be probably due to *Sthambhana* action of both *Dravyas*. The overall efficacy of treatment was found to be better in *Yoni prakshalana* along with *Pathya ahara vihara* where disease was cured more effectively.

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***Address for correspondence**
Priya Sharma Sabarad
Assistant Professor
Department of Prasootitantra & Striroga, B.L.D.E's A.V.S Ayurveda Mahavidyalya
Vijayapura, Karnataka, India.
Email: drpriyas.ms@gmail.com
Ph: +917406910269