



MANAGEMENT OF *SHWETAPRADARA* WITH *CHAKRAMARDA MULA CHURNA* AND *KARPASA CHURNA* – AN RCT

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ABSTRACT:

Background: Leucorrhoea also known as white discharge is one such condition that has become a common burning problem currently. In Ayurveda, Leucorrhea is known as *Shweta Pradara* (*Leucorrhea*), *Shweta* (*White*) is white and *Pradara* (*Discharge*) means discharge. Design: This was a comparative clinical randomized study which included 60 patients assigned into two groups, 30 patients each in Group A and Group B with pre-post assessments on 1st day before the treatment, 8th day after the treatment and follow-up on 15th day. Intervention: Group A received *Chakramarda Mula Churna* (*Powder of Cassia tora. Linn*) and Group B *Karpasa Mula Churna* (*Powder of Cassia tora. Linn*) with *Tandulodaka* (*Rice washed water*) twice a day for 7 days. Results: Group A (*Chakramarda Mula Churna*) showed significant changes compared to Group B (*Karpasa Mula Churna*) on subjective parameters such as *Srava* (*Discharge*), *Kandu* (*Itching*), *Katishoola* (*Backache*) and objective parameters such as *Yoni Srava* (*Vaginal Discharge*), *Srava Varna* (*Colour Of The Discharge*) and *Gandha* (*Odour*) with ($p \leq 0.05$). Conclusion: *Chakramarda Mula Churna* (*Powder of Cassia tora. Linn*) is effective compared to *Karpasa Mula Churna* (*Powder of Cassia tora. Linn*) in patients suffering from *Shweta Pradara*.

Keywords: Shwetapradara, Leucorrhoea, DUB, Ayurveda, Chakramarda mula churna, Karpasamula churna

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INTRODUCTION

Women's reproductive health is one of the most ignored health conditions in our society despite of it being an integral part of general health. Abnormal vaginal discharge or the white discharge is the commonest issue affecting the reproductive system of women. [1] Normal vaginal discharge will have a clear, cloudy white appearance without any odour. Whereas, changes in the menstrual cycle due to emotional stress, nutritional status, pregnancy, usage of medications such as birth control pills and sexual arousal affects the normal discharge by increasing the pH of vagina. It is also associated with increased wetness and clear thick discharge around mid of the cycle. [2]

Leukorrhea or leucorrhoea is one such condition characterized by the abnormal vaginal discharge with mild odour and the presence of yellowish or whitish vaginal discharge which is thick in consistency. [3] It can be confirmed with WBC more than 10 per high-power field under a microscope when examining vaginal fluid. [4] Oestrogen imbalance is said to be the most common causative factor for leucorrhoea and others include lower socioeconomic status, poor hygiene, faulty dietary habits, excessive coitus, abortion, high parity, excessive work load etc. The amount of discharge may increase due to vaginal infection and frequent presence and absence of the discharge becomes yellowish and foul smelling which is usually a non-pathological symptom secondary to inflammatory conditions of the vagina or cervix. [5] It presents with weakness, tiredness, exhaustion, body aches and other

complaints. It also causes lot of discomfort and stress and even affect the sexual preferences and libido from mild to severe extent. [6] Physiological leucorrhoea is treated by balancing the hormonal axis to maintain the oestrogen levels at the optimum throughout the month. Pathological leucorrhoea is treated by managing the infection, normalizing the genital tract and balancing the hormones. [7] It includes antibiotics, such as Nystatin, Metronidazole Natamycin and Povidone. [8]

In developing countries, approximately 80% of the world population depends on Traditional medicines and mainly *Ayurveda* for the management of Gynaecological disorders. With the knowledge of adverse effects and the fear of surgeries, many patients resort to Ayurveda and herbal treatments and these can help the patients to overcome the problem of Leucorrhoea as it is safe and effective without any adverse effects. [9] According to *Ayurveda*, *Shweta Pradara* (*Leucorrhoea*) is not a disease, but a symptom of so many diseases. [2] *Shwetapradara* or Leucorrhoea or white vaginal discharge is a symptom which is found in all *Yonivyapads* (*Gynaecological disorders*) such as *Atyananda*, *Karnini*, *Acharana*, *Aticharana*, *Sleshmala*, *Upapluta* and *Prasramsini Yonivyapada* that are caused due to the vitiation of *Kapha* and *Vata* *Kapha Doshas*. In addition, Ayurveda treatment also corrects the hormonal imbalance of the reproductive system and provides an overall positive health and improves the quality of life. Though many studies are available on

Shwetapradara (Leucorrhoea) and Ayurvedic interventions, keeping in mind the safety of the Ayurvedic drugs that has no adverse effects and the mode of consumption, in the present study it was aimed at evaluating the clinical efficacy of *Chakramarda mula churna* and *Karpasa Mula Churna* in the management of *Shweta Pradara (Leucorrhoea)* w.s.r to Leucorrhoea- A comparative study.

OBJECTIVES OF THE STUDY

To evaluate the clinical efficacy of *Chakramarda mula churna* and *Karpasa mula Churna* in the management of *Shweta pradara* w.s.r to Dysfunctional Uterine Bleeding on *Srava*, *Kandu*, *Katishoola*, *Yonisrava*, *Srava Varna* and *Gandha*.

METHODOLOGY

This was a randomized comparative clinical study. It included 60 patients assigned into two groups, Group A and Group B each with 30 patients respectively. After the initial screening, patients who fulfilled the eligible criteria were assigned into the groups. Female patients with the features of *Shweta Pradara (Leucorrhea)* were recruited from the outpatient and in-patient Department of *Prasooti (Obstetrics) Tantra Evam Stree Roga (Gynaecology)* at R.G.E.S Ayurvedic Medical College and hospital Ron. The study was approved by the IRB of Institutional Ethical committee of R.G.E.S Ayurvedic Medical College and hospital Ron. Signed informed consent was obtained from all the patients. Sample size was derived by calculating the effect size based on the mean and standard deviation (SD) of an earlier clinical study conducted on the *Shwetapradara (Leucorrhea)* and

Pushyanuga Churna (Powder). The statistician who did the randomization and data analysis and the researcher who carried out the assessments were blinded to the treatment status of the patients. Statistical analysis was done using appropriate statistical methods and results were interpreted.

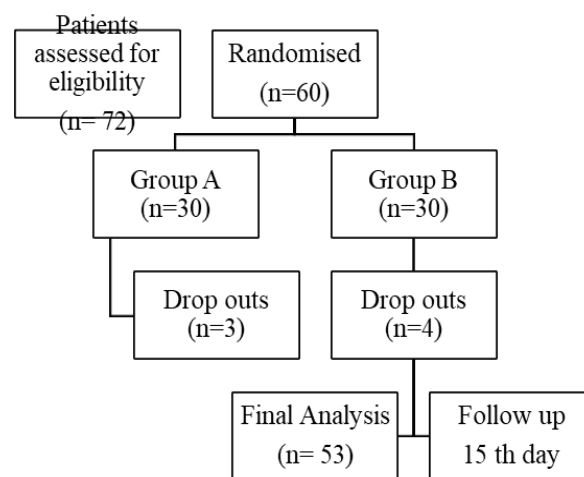


Figure No.1 Flowchart

Inclusion criteria

Study included married female patients between the age groups of 21 – 40 years, patients with the *Lakshanas (Symptoms)* of *Shweta Pradara (Leucorrhoea)* and patients with complaints of white vaginal discharge, itching of vulva associated with back ache and general weakness.

Exclusion criteria

Patients below 20 years and more than 40 years, pregnancy and lactation, patients with IUD, uterine polyps, other any pelvic inflammatory diseases, sexually transmitted diseases, prolapsed uterus, malignancies, systemic disorders like DM, HTN, Anaemia etc Chronic illness were excluded from the study.

Intervention

Table No.1 Intervention

Sl.No	Group A	Group B
Drug	<i>Chakramarda Mula Churna</i>	<i>Karpasa Mula Churna</i>
Anupana	<i>Tandulodaka</i>	<i>Tandulodaka</i>
Dose	6gms	6gms
Time of Administration	Twice a day	Twice a day
Duration	7 days	7 days
Follow up	15 th day	15 th day

Present study includes *Chakramarda Mula Churna* and *Karpasa Mula Churna* that are quoted by Acharya *Yogarathnakara* in the *Somaroga (Chapter) Adhyaya* for *Shwetapradara (Leucohhroea)*. The drug *Chakramarda Mula Churna* and *Karpasa Mula Churna* was collected and prepared in the Department of *Dravyaguna*, RGES Ayurvedic Medical College and hospital, Ron. (Table No.1)

Outcomes

Assessments were carried out before the treatment on the 1st day, 8th day after the treatment and 15th day, the follow up.

Subjective parameters

Srava (Discharge)

Kandu (Itching)

Katishoola (Backache)

Objective parameters

Yonirava (Vaginal discharge)

Srava varna (Colour of discharge)

Gandha (Odour)

Grading of Parameters (Table No.2)

Sl.No	Parameters		Grading
1.	<i>Srava (Discharge)</i>	No discharge	0
		Mild discharge (persistent moisturizes vulva)	1
		Moderate discharge (Frequently need to change undergarments)	2
		Severe discharge (Need to use a pad)	3
2.	<i>Kandu (Itching)</i>	No itching	0
		Occasional itching	1
		Relief by scratching without excoriation	2
		Unrelieved by scratching, with	3

		excoriation	
3.	Katishoola	No Pain	0
		Tolerable, not disturbing routine work	1
		Not tolerable, disturbs routine work	2
		Pain subsides only after taking analgesics	3
4.	Yonirava (Discharge)	No discharge	0
		Mild	1
		Moderate	2
		Severe	3
		Clots (severe)	5
5.	Sravavarna	Transparent	0
		White	1
		Curdy white	2
6.	Gandha (Odour)	No smell	0
		Foul smell	1

RESULTS

Demographic data, subjective and objective parameters were assessed using appropriate statistical methods. The data were analysed using SPSS Version 10. There were 3 drop outs in group A and 4 in group B and the analysis was carried out on 53 patients. A total of 27 and 26 subjects were included for data analysis in Group A and Group B respectively. The data was visually inspected for

missing values and manual errors. Kolmogorov Smirnov Test for Normality was conducted from values computed as difference between baseline and post values. The data was normally distributed. Repeated measures Analysis of Variance was performed to assess the difference between the two groups before and after the treatment.

Table No.3 Showing Results Within and Between Groups

	Group A			Group B		
	1	8	15	1	8	15
<i>Srava</i>	3.0±0.0	1.07±0.27	0.04±0.19	3.00±0.0	2.50±0.51	1.69±0.62
<i>Kandu</i>	3.0±0.0	1.11±0.32	0.0±0.0	3.0±0.0	2.38±0.5	0.74±0.84
<i>Katishoola</i>	3.0±0.0	0.93±0.27	0.0±0.0	3.0±0.0	2.2±0.4	1.35±0.49

<i>Yonisrava</i>	5.0±0.0	2.41±0.47	0.1±0.3	5.0±0.0	3.69±0.47	2.27±0.53
<i>Sravavrana</i>	2.0±0.0	0.7±0.47	0.00±0.00	2.0±0.0	1.54±0.51	0.81±0.40
<i>Gandha</i>	1.0±0.0	0.04±0.19	0.00±0.00	1.0±0.0	0.69±0.47	0.27±0.45

Table representing Mean±SD values at 3rd, 6th and 9th hour in group A and group B. Repeated measures Analysis of variance was performed to assess within and between group differences. Level of significance fixed at $p \leq 0.05$. *Srava*, *Kandu*, *Katishoola*, *Yonisrava*, *Sravavarna*, *Gandha*

Results showed significant reduction of all the subjective parameters like *Srava* (Discharge), *Kandu* (Itching), *Katishoola* (Backache) and objective parameters such as *Yoni srava* (Vaginal discharge), *Srava varna* (Colour of the discharge) and *Gandha* (Odour) with Pre and Post assessments on 8th day after the treatment and follow-up on 15th day within groups (Group A and Group B). Between the groups, Group A (*Chakramarda Mula Churna*) showed significant changes compared to Group B (*Karpasa Mula Churna*) with ($p \leq 0.05$). (Table No.3)

Within the groups, Group A showed reduction in *Srava* (Discharge) on 8th day (1.07±0.27) and 15th day (0.04±0.19), *Kandu* (itching) on 8th day (1.11±0.32) and 15th day (0.0±0.0), *Katishoola* (Backache) on 8th day (0.93±0.27) and 15th day (0.0±0.0), *Yonisrava* (Vaginal discharge) on 8th day (2.41±0.47) and 15th day (0.1±0.3). *Sravavarna* (Colour of Discharge) on 8th day (0.7±0.47) and 15th day (0.00±0.00). *Gandha* (Odour) on 8th day (0.04±0.19) and 15th day (0.00±0.00) compared to before treatment with $p \leq 0.05$. Group B also showed reduction in *Srava* (Discharge) on 8th day

(2.50±0.51) and on 15th day (1.69±0.62), *Kandu* (itching) on 8th day (2.38±0.5) and on 15th day (0.74±0.84), *Katishoola* (Backache) on 8th day (2.2±0.4) and on 15th day (1.35±0.49), *Yonisrava* (Vaginal discharge) on 8th day (3.69±0.47) and on 15th day (2.27±0.53), *Sravavarna* (Colour of discharge) on 8th day (1.54±0.51) and on 15th day (0.81±0.40) and *Gandha* (Odour) on 8th day (0.69±0.47) and on 15th day (0.27±0.45) compared to before treatment with $p \leq 0.05$.

DISCUSSION

Women and women's health are considered to be the backbone of the society at all the levels and roles as a girl, sister, mother, wife etc. Reproductive tract infections are the ones affecting them at various stages of life and major cause of morbidity. Leucorrhoea is a one of the disorders affecting female reproductive system in which there is an abnormal accumulation of toxins in the body because of unhealthy eating habits, organs like the kidney, bowels and skin unable to expel it. As a result, the body tries to expel these toxins in the form of foul smelling and thick vaginal discharge. Chronic leucorrhoea presents with the vaginal discharge which is whitish, yellowish or even greenish in colour accompanied by pus.^[10] It occurs in 1-14% of all the women in their reproductive age group and is responsible for 5-10 million out-patient visits per year worldwide. In

India, the prevalence of excessive vaginal discharge is estimated to be 30%.^[11]

Leucorrhea is also a sign of vaginitis which is often caused by infection with the fungus *Candida albicans* or by infection with the protozoan parasite *Trichomonas vaginalis*^[12, 13] Management of leukorrhea includes azithromycin 1gram single dose orally or doxycycline 100 mg twice a day orally for 7 days. Alternative therapy is erythromycin 500 mg orally 4 times a day for 7 days, or erythromycin ethylsuccinate 800 mg orally 4 times a day for 7 days, or levofloxacin 500 mg orally once daily for 7 days, or ofloxacin 300 mg orally twice daily for 7 days.^[14] In *Ayurvedic literature*, Leucorrhoea is quoted as a symptom in various gynaecological disorders and not a disease entity. *Chakrapani*, the commentator of *Charaka Samhitha* has explained the word *Pandura* – *Asrigdara* (Vaginal discharge) as *Shweta Pradara* (Leucorrhoea). Kapha is said to be the main causative factor for *Shweta Pradara* or the vaginal discharge. The management is based on its etiopathogenesis and restoration of Agni (digestive fire) is important to cleanse the accumulated toxins and bring back Kapha dosha towards equilibrium and in turn strengthen the muscles of reproductive system with the help of rejuvenating herbs.^[15]

With an objective to provide the effective treatment for leucorrhoea, present study was carried out with a pre-post design clinical study. The drugs *Chakramarda Mula Churna* mentioned by *Acharya Yogarathnakara* in *Somaroga Chikitsa Adhyaya* (Chapter) and *Karpasa Mula Churna*

mentioned in *Streeroga Adhikara* of *Vangasena Samhitha* (Chapter) is being studied to evaluate its efficacy in *Shwetapradara* (Leucorrhea). The baseline data for the variables were normally distributed and did not differ significantly between the groups. Both within the groups and between the groups, Group A (*Chakramarda Mula Churna*) showed significant changes compared to Group B (*Karpasa Mula Churna*) with ($p \leq 0.05$).

Chakramarda is a well-known and a very effective medicinal plant found in India and other tropical countries. In traditional system of medicine, *Chakramarda* has been attributed many medicinal properties and is easily available in all regions of India especially in rainy seasons. It has *Katu Rasa* (Pungent Taste), with *Katu Vipaka* (Pungent taste after digestion), and *Ushna Virya* (Hot in Potency). This plant is *Laghu* (Light), *Ruksha* (Dryness) in *Guna* and *Doshaghnata* (Dosha alleviating) is *Kaphavatshamaka* (Balancing of Kapha and Vata doshas or humors of the body). In *Ayurveda Samhita*, *Chakramarda* is said to be very useful in many diseases like *Kushta* (Skin disorders), *Krumi* (Helminthiasis), *Dadru* (Type of skin disorder) etc. and mainly in *Shweta Pradara* (Leucorrhea) as it is *Kapha Shamaka*.^[16] One more drug, *Karpasa* (*Gossypium Herbaceum*) belongs to the family *Malvaceae* and possesses *Katu* (Pungent) and *Kashaya* (Astringent) in *Rasa*, *Laghu* (Light), *Tikshna* (Penetrating) *Guna*; *Ushna* (Hot) *Virya* and *Katu* (Pungent) *Vipaka*. It is *Kaphapittashamaka*, *Garbhashayasankochana* (Uterus stimulant) and *Artavajana* (Increases Menses Flow). Studies have showed that *Karpasa Mula* is very effective in

Kashtartava (*Dysmenorrhoea*), *Anartava* (*Amenorrhoea*) and *Prasuti Pashcht Vikara* (*Purpueral Disorders*). It also has arethermogenic, emollient, abortifacient, emmenagogue, diuretic, haemato-purative and anti-cancerous. Root contains a polyphenolic toxic compound known as Gossypol. Gossypol is a male contraceptive. It also assists menstrual flow and effectively inhibits egg implantation. Root is abortifacient and has uterus stimulating activity therefore it is mostly used in menstrual disorders.^[17]

Tandulodaka as *Anuapana* has *Madhura Rasa*, *Laghu*, *Snigdha Guna*, *Sheeta Veerya*, *Mahura Vipaka* and *Pitta Shamaka*. *Balya*, *Doshaghna*, *Sukrala*, *Mutrala*, *Chakshusya*, *Varnya*, *Swarya*, *Hridya*, *Jwaraghna*, *Trishnaghna* and *Sarvadosha Vishapaha* properties. It also possesses anti-inflammatory and antioxidant properties which help in eliminating the chronic uterine infections and pelvic congestion thus reducing the menstrual blood loss. In addition, it has Anti-diarrhoeal, Anti-dysentric and Anti-fungal properties. It also has Vitamin B complex that may help to normalize the oestrogen metabolism and Thiamine that improves the endothelial activity of the arteries and reduces the bleeding.^[18]

In the present study the drugs such as *Chakramarda Mula Churna* and *Karpasa Mula Churna* were selected and studied as it has been mentioned in Ayurvedic Classics by *Acharya Yogarathnakara* and is being practiced since evolution of the science. But as there were no studies on *Chakramarda Mula Churna* and to evaluate its efficacy, *Karpasa Mula Churna* quoted

by the same eminent is chosen for the study to evaluate the role of both the drugs in *Shwetapradara*. It showed the significant changes in Group A (*Chakramarda Mula Churna*) showed significant changes compared to Group B (*Karpasa Mula Churna*) with all the parameters with ($p \leq 0.05$) on *Srava* (*Discharge*), *Kandu* (*Itching*), *Katishoola* (*Backache*) and objective parameters such as *Yoni Srava* (*Vaginal Discharge*), *Srava Varna* (*Colour Of The Discharge*) and *Gandha* (*Odour*) in the patients suffering from *Shwetapradara* (*Leucorrhea*). This authenticates the role of drug and medicines that are quoted in Ayurvedic science and as there is a need for more safe and effective drugs for the successful management of the gynaecological disorders. This further provides us a direction for further researches and in addition authenticates and revalidates the concepts described in Ayurvedic science making it an evidence-based science.

Limitations

Sample size was small, Patients were not comfortable with consumption of medicine in the churna form, Palatability of *Tandulodaka* was not accepted and patients preferred normal water instead, Collection of *Chakramarda* and *Karpasa Mula Churna* was very difficult and Yield of *Chakramarda* and *Karpasa Mula Churna* was less.

Strengths of the Study

Patients were happy due to early relief and effectiveness, Patients were able to get back to their life fast, their quality of life was improved and both the *Churnas* (*Powders*) were very effective in reduction of the complaints.

Recommendations of the Study

Larger sample size, *Churna* consumption in the Vati (Tablet) form would be comfortable to the patient, Awareness on Importance and Palatability of *Tandulodaka* is needed before the administration of the Medicine and a longer Follow up would be recommended.

CONCLUSION

This was a randomized comparative clinical study. It included 60 patients suffering from *Shwetapradara* assigned into two groups, Group A and Group B each with 30 patients respectively. The present study evaluated the efficacy of *Chakramarda Mula Churna* and *Karpasa Mula Churna* on subjective parameters such as *Srava* (Discharge), *Kandu* (Itching), *Katishoola* (Backache) and objective parameters such as *Yoni srava* (Vaginal discharge), *Srava varna* (Colour of the discharge) and *Gandha* (Odour) with Pre and Post assessments on 1st day before the treatment, 8th day after the treatment and follow-up on 15th day. Group A received *Chakramarda Mula Churna* 6gms with *Tandulodaka Anupana* before food, twice a day for 7 days and *Karpasa Mula Churna* was given with *Tandulodaka* twice a day for the same duration. Duration of the study was 7 days and follow up was done on every 15th day. Both between and within groups with repeated measures analysis of variance (RMANOVA) with Bonferroni showed significant changes in Group A (*Chakramarda mula churna*) compared to Group B (*Karpasa Mula Churna*) on all subjective and objective parameters with ($p \leq 0.05$).

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Conflicts of interest: Nil

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