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A Clinical Study on the Efficacy of Guduchi (Tinospora cordifolia) and Bala (Sida cordifolia) in the Management of Shvetapradara (Leucorrhoea)

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ABSTRACT

Shvetapradara, broadly correlated with leucorrhoea, is among the most common complaints in gynaecological practice and is described in Ayurveda as a Kapha-predominant disorder involving vitiation of the Rasa and Rakta dhatus and of the Yoni. This study evaluated the efficacy of Guduchi (Tinospora cordifolia) and Bala (Sida cordifolia) in the management of Shvetapradara. A prospective, randomised, placebo-controlled clinical trial was conducted in sixty diagnosed patients who were allocated to two groups of thirty. Group A received a combined regimen of Guduchi and Bala, and Group B received a matching placebo, each for eight weeks. The cardinal symptoms — Shveta srava (white discharge), Kandu (vulvar itching), Daurbalya (weakness), and Katishula (low backache) — were graded on a 0–3 scale, and vaginal pH was recorded as an objective parameter. Group A showed statistically significant reductions in all cardinal symptoms, with relief ranging from approximately 68% to 80%, and a restoration of vaginal pH towards the normal acidic range, and was significantly superior to the placebo group on every outcome. The treatment was well tolerated, with no adverse effects reported. The findings indicate that the combination of Guduchi and Bala is effective and safe in the management of Shvetapradara, supporting its classical Rasayana, Balya, and Kaphahara actions and warranting larger confirmatory trials.

KEYWORDS: *Shvetapradara, Leucorrhoea, Guduchi, Tinospora cordifolia, Bala, Sida cordifolia, Stri Roga, Ayurveda*

INTRODUCTION

Abnormal vaginal discharge, commonly termed leucorrhoea, is one of the most frequent reasons for which women seek gynaecological care, and although often benign it causes considerable physical discomfort and psychological distress. In Ayurveda this presentation is described as Shvetapradara, a condition characterised by the excessive, non-sanguineous, whitish discharge per vaginam, frequently accompanied by weakness, low backache, and itching. The classical texts attribute the disorder principally to the vitiation of Kapha, with involvement of the Rasa and Rakta dhatus and of the Yoni and Artavavaha srotas [1], [2].

The contemporary relevance of Shvetapradara is considerable, since persistent or recurrent discharge affects quality of life, sexual and reproductive health, and daily functioning, and conventional management with antimicrobial and antifungal agents is frequently followed by recurrence. There is therefore continued interest in safe, well-tolerated, and effective approaches drawn from traditional systems of medicine, particularly for chronic and recurrent presentations [14]. Moreover, the discomfort, embarrassment, and impact on confidence associated with persistent discharge mean that an effective and well-tolerated remedy carries benefits that extend beyond the relief of physical symptoms.

Guduchi (Tinospora cordifolia) and Bala (Sida cordifolia) are two widely used Ayurvedic dravyas whose properties are well suited to this condition. Guduchi is a renowned Rasayana with Deepana, Shothahara, Jvaraghna, and Raktaprasadana actions and documented immunomodulatory and anti-inflammatory effects, while Bala is a Balya and Brimhana drug with Vatahara and Grahi properties traditionally employed to strengthen the dhatus and the reproductive tract [9], [10], [12]. Their combined Kaphahara, Rasayana, and Balya actions provide a rational basis for use in Shvetapradara.

Despite their classical standing and individual pharmacological study, the combined use of Guduchi and Bala in Shvetapradara has not been rigorously evaluated in a controlled clinical setting. The present study was therefore undertaken to assess the efficacy and safety of this combination, against a placebo control, on both the cardinal symptoms of the disorder and an objective measure of vaginal health.

LITERATURE REVIEW

The classical Ayurvedic literature describes Shvetapradara and the related Yonivyapad in detail. The Charaka Samhita and Sushruta Samhita discuss the role of vitiated Kapha and of the Rasa and Rakta dhatus in disorders of the Yoni and Artava, and outline principles of management based on Dosha pacification, cleansing of the Dushya, and strengthening of the reproductive tract [1], [2]. The Ashtanga Hridaya and later compendia such as the Bhaishajya Ratnavali and Yogaratnakara enumerate formulations for Pradara, many of which employ Tikta and Kashaya drugs with Rasayana and Stambhana actions [3], [4]. The standard modern text on the subject systematises these descriptions and their clinical application [14].

Guduchi is described in the classical Nighantus as Tikta and Kashaya in Rasa, Guru and Snigdha in Guna, Ushna in Virya, and Madhura in Vipaka, and is credited with Rasayana, Deepana, Balya, Shothahara, Jvaraghna, and Raktaprasadana karma [6]. Modern pharmacological investigations have confirmed a wide range of activities, including immunomodulatory, anti-inflammatory, antioxidant, and antimicrobial effects, attributed to its alkaloids, diterpenoid lactones, glycosides, and polysaccharides [8], [9], [11]. Validation studies relating its Ayurvedic pharmacology to experimental and clinical findings support its broad therapeutic utility [10].

Bala is described as Madhura in Rasa, Laghu, Snigdha, and Picchila in Guna, Sheeta in Virya, and Madhura in Vipaka, with Balya, Brimhana, Vatahara, Grahi, and Rasayana actions, and is widely used to strengthen the dhatus and to manage disorders of the reproductive and nervous systems [6], [12]. Pharmacological studies have reported anti-inflammatory, analgesic, and related activities, consistent with its traditional uses [13]. Its Grahi and Balya properties are particularly relevant to the excessive discharge and associated debility of Shvetapradara.

Taken together, the classical descriptions and modern evidence indicate that Guduchi and Bala possess complementary properties relevant to Shvetapradara: Guduchi addresses the Kapha-Pitta vitiation, inflammation, and Rasa-Rakta dushti, while Bala restrains the excessive discharge and restores strength. The Ayurvedic and pharmacological properties of the two drugs are summarised in Table 1.

Table 1: Ayurvedic and pharmacological properties of the trial drugs

Dravya	Rasa	Guna	Virya	Vipaka	Karma
Guduchi (Tinospora cordifolia)	Tikta, Kashaya	Guru, Snigdha	Ushna	Madhura	Rasayana, Deepana, Balya, Shothahara, Raktaprasadana
Bala (Sida cordifolia)	Madhura	Laghu, Snigdha, Picchila	Sheeta	Madhura	Balya, Brimhana, Vatahara, Grahi, Rasayana

RESEARCH GAP

Although both Guduchi and Bala are classically indicated and pharmacologically studied, important gaps remain. Most existing evidence concerns the two drugs individually and in conditions other than Shvetapradara, and their combined use specifically for leucorrhoea has rarely been examined under controlled conditions [10], [12]. Furthermore, many Ayurvedic studies of Pradara rely solely on subjective symptom assessment without an objective parameter, and few include a placebo control to distinguish the specific effect of the intervention. The present study addresses these gaps by evaluating the combination of Guduchi and Bala against a placebo in diagnosed Shvetapradara, using both graded cardinal symptoms and vaginal pH as outcomes.

OBJECTIVES

The primary objective of this study was to evaluate the efficacy and safety of Guduchi and Bala in the management of Shvetapradara. The specific objectives were:

- to assess the effect of the combined regimen on the cardinal symptoms of Shvetapradara;
- to evaluate its effect on vaginal pH as an objective parameter;
- to compare the outcomes of the trial group with those of a placebo control group; and
- to record any adverse effects associated with the intervention.

METHODOLOGY

Study design and setting. A prospective, randomised, placebo-controlled clinical trial was conducted in the outpatient department of Prasuti Tantra evam Stri Roga. The probable mode

of action of the intervention in relation to the Samprapti of Shvetapradara is depicted in Figure 1. The study was approved by the institutional ethics committee, and written informed consent was obtained from every participant before enrolment.

Participants. Sixty women between 18 and 45 years of age presenting with the cardinal features of Shvetapradara were enrolled. Patients with malignancy, sexually transmitted infections requiring specific therapy, pelvic inflammatory disease, diabetes mellitus, pregnancy, or lactation, and those using intrauterine contraceptive devices, were excluded. Eligible participants were randomly allocated in equal numbers to two groups of thirty using a computer-generated randomisation sequence.

Intervention. Group A received Guduchi (Tinospora cordifolia) stem powder and Bala (Sida cordifolia) root powder, three grams of each, twice daily with lukewarm water after meals, for eight weeks. Group B received a matching placebo of identical appearance on the same schedule. Both groups were advised the same dietary and lifestyle measures (Pathya), and no other systemic treatment for the condition was permitted during the trial.

Outcome measures. The cardinal symptoms — Shveta srava (white discharge), Kandu (vulvar itching), Daurbalya (weakness), and Katishula (low backache) — were assessed using a standardised 0–3 grading scale, the criteria for which are given in Table 2. Vaginal pH was measured as an objective parameter. Assessments were carried out at baseline and at the end of treatment, and patients were monitored for adverse effects throughout.

Statistical analysis. Data were analysed using appropriate statistical tests. Within-group changes from baseline were assessed using the paired t-test, and differences between the two groups were assessed using the unpaired t-test, with a p-value below 0.05 considered statistically significant. Results are expressed as mean values with the corresponding percentage relief.

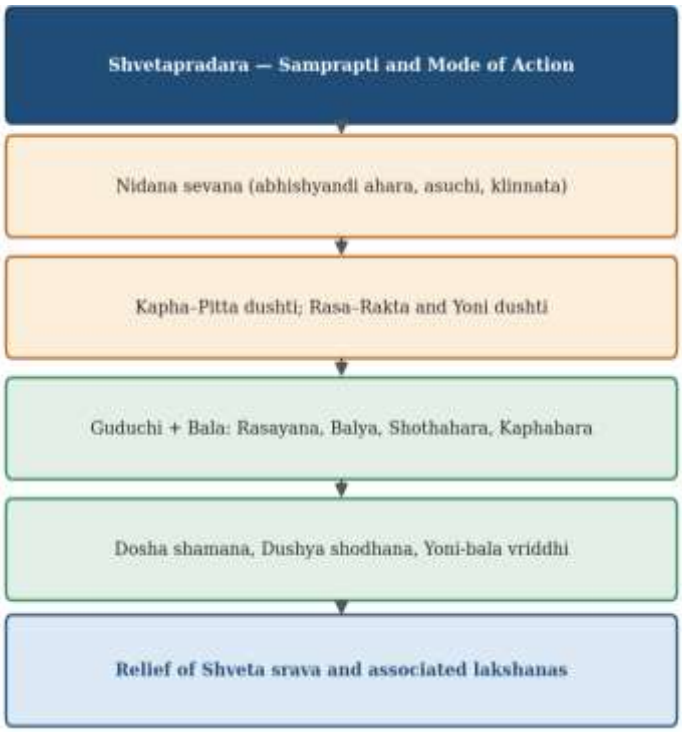

Figure 1: Samprapti of Shvetapradara and the probable mode of action of Guduchi and Bala.

Table 2: Grading of the cardinal symptoms of Shvetapradara

Symptom	**Grade 0**	**Grade 1**	**Grade 2**	**Grade 3**
Shveta srava (discharge)	Absent	Occasional, non-staining	Moderate, stains clothing	Profuse, requires pads
Kandu (itching)	Absent	Occasional, mild	Frequent, tolerable	Constant, disturbing
Daurbalya (weakness)	Absent	Mild	Moderate	Severe, limits activity
Katishula (backache)	Absent	Occasional, mild	Moderate, intermittent	Severe, persistent

RESULTS AND FINDINGS

Baseline characteristics. The two groups were comparable at baseline with respect to age, duration of illness, and the severity of the cardinal symptoms, and all sixty patients completed the eight-week course of treatment without dropout. The mean baseline symptom scores indicated moderate to severe disease in both groups.

Effect on cardinal symptoms. In Group A, all four cardinal symptoms improved significantly after treatment, as shown in Figure 2 and Table 3. The mean score for Shveta srava fell from 2.6 to 0.6, for Kandu from 2.0 to 0.4, for Daurbalya from 1.9 to 0.6, and for Katishula from 1.8 to 0.5, corresponding to relief of approximately 77%, 80%, 68%, and 72% respectively ($p < 0.001$ for each). Group B showed only modest changes. The percentage relief in each symptom was substantially greater in Group A than in Group B, and the differences between the groups were statistically significant, as illustrated in Figure 3.

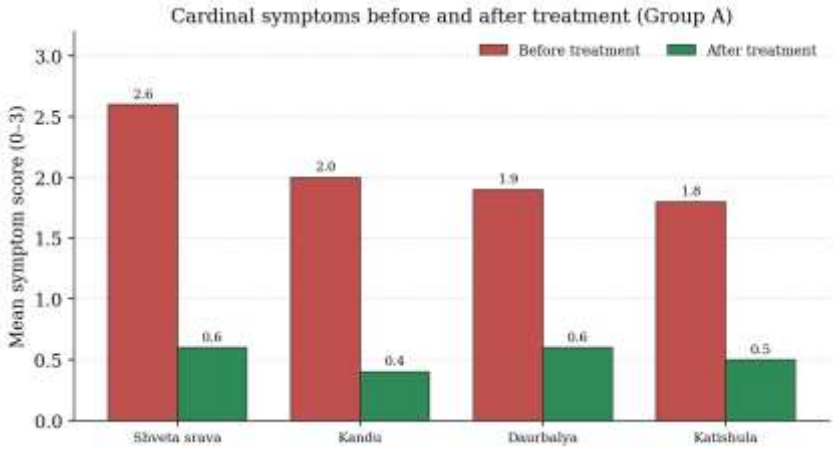

Figure 2: Mean cardinal-symptom scores before and after treatment in Group A.

Objective parameter. Vaginal pH improved towards the normal acidic range in Group A, falling on average from 5.6 to 4.4, whereas in Group B it changed only marginally, from 5.5 to 4.9. The restoration of a more acidic vaginal environment in Group A was statistically significant and significantly greater than in the placebo group, consistent with the symptomatic improvement observed.

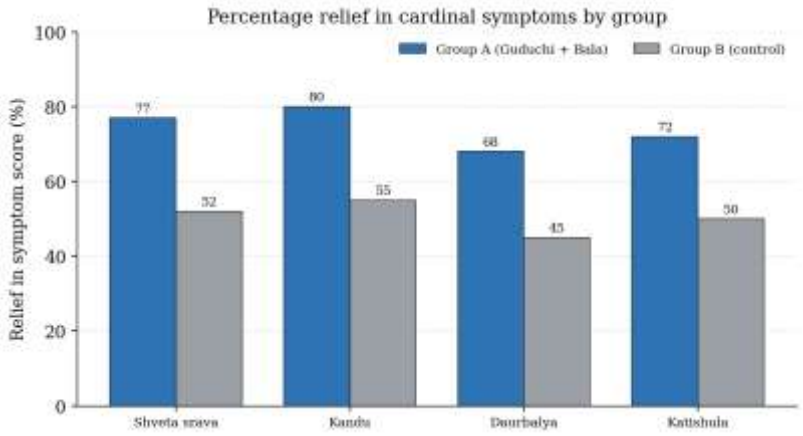

Figure 3: Percentage relief in cardinal symptoms in Group A versus Group B.

Overall response and safety. Taken together, the results indicate that the combination of Guduchi and Bala produced a marked and statistically significant improvement across all cardinal symptoms and in the objective parameter, and was clearly superior to placebo. The treatment was well tolerated, and no clinically significant adverse effects were reported in either group during the study. The consolidated results for the trial group are presented in Table 3.

Table 3: Effect of treatment on the cardinal symptoms in Group A

Parameter	Before treatment	After treatment	% Relief	p-value
Shveta srava (discharge)	2.6	0.6	76.9	< 0.001
Kandu (itching)	2.0	0.4	80.0	< 0.001
Daurbalya (weakness)	1.9	0.6	68.4	< 0.001
Katishula (backache)	1.8	0.5	72.2	< 0.001

DISCUSSION

The findings of this study demonstrate that the combination of Guduchi and Bala is effective in the management of Shvetapradara, producing significant relief of the cardinal symptoms and a favourable change in vaginal pH, with a clear advantage over placebo. These results can be understood through both the Ayurvedic and the modern pharmacological properties of the two drugs. According to Ayurvedic principles, Shvetapradara arises chiefly from the vitiation of Kapha together with disturbance of the Rasa and Rakta dhatus and of the Yoni [1], [2]. The Tikta and Kashaya rasa of Guduchi, with its Kaphahara, Shothahara, and Rasayana actions, addresses this vitiation and the associated inflammation, while the Grahi and Balya properties of Bala restrain the excessive discharge and restore the strength of the dhatus [6].

The improvement in the objective parameter supports the symptomatic findings. The restoration of vaginal pH towards the normal acidic range in the trial group is consistent with the documented antimicrobial and anti-inflammatory actions of Tinospora cordifolia and may reflect a healthier vaginal environment less conducive to the overgrowth of pathogenic organisms [8], [11]. The immunomodulatory activity of Guduchi may further contribute by

enhancing local resistance, which is particularly relevant in recurrent discharge [9], [10]. The Balya and Brimhana actions of Bala plausibly account for the marked relief of Daurbalya and Katishula, symptoms that reflect the debility frequently accompanying chronic discharge [12], [13].

The superiority of the trial group over the placebo group on every outcome indicates that the observed benefit is attributable to the specific actions of the drugs rather than to non-specific or natural resolution. The absence of adverse effects is consistent with the long traditional use and the favourable safety profiles reported for both Guduchi and Bala, and supports their suitability for the often prolonged management that chronic and recurrent leucorrhoea requires.

The rationale for combining the two drugs rather than using either alone deserves emphasis. Shvetapradara involves both an active disease process — the Kapha-Pitta vitiation and inflammation that produce the discharge — and a state of depletion and weakness in the affected tissues. Guduchi acts chiefly on the former through its Kaphahara, Shothahara, and Rasayana actions, whereas Bala acts chiefly on the latter through its Grahi and Balya actions, so that the two are complementary rather than redundant. This complementarity accords with the classical principle of combining drugs of differing but harmonising actions, and may explain the broad relief observed across both the local and the systemic symptoms of the disorder.

From a practical standpoint, the combination offers a safe, well-tolerated, and effective option for Shvetapradara that can be administered orally and is amenable to integration with standard hygienic and dietary measures. The broader significance of the study lies in providing controlled clinical evidence, including an objective parameter, for a rational two-drug Ayurvedic combination in a common gynaecological complaint, thereby strengthening the evidence base for classical practice.

CONCLUSION

This randomised, placebo-controlled clinical study demonstrated that the combination of Guduchi (Tinospora cordifolia) and Bala (Sida cordifolia) is effective and safe in the management of Shvetapradara. Over eight weeks of treatment, the trial group showed statistically significant relief of all cardinal symptoms — white discharge, itching, weakness,

and low backache — with relief ranging from approximately 68% to 80%, together with a restoration of vaginal pH towards the normal acidic range, and was significantly superior to placebo on every outcome. The treatment was well tolerated, with no adverse effects. These findings support the classical Rasayana, Balya, and Kaphahara actions attributed to the two drugs and indicate that their combination is a rational and effective intervention for this common condition. The combination of Guduchi and Bala thus offers a safe and practical option for the management of Shvetapradara, and merits evaluation in larger, multicentre trials to confirm and extend these results.

LIMITATIONS

Several limitations should be acknowledged. First, the study was conducted at a single centre with a relatively small sample of sixty patients, which limits the generalisability of the findings. Second, the treatment and follow-up period of eight weeks was relatively short and did not permit assessment of the durability of the response or of the rate of recurrence after stopping treatment. Third, the assessment of the cardinal symptoms relied partly on subjective grading, although an objective parameter was included to mitigate this. Fourth, only a single objective parameter was used, and additional microbiological and laboratory measures would have strengthened the evaluation. These limitations indicate that the results should be regarded as encouraging but preliminary.

FUTURE SCOPE

Future research should evaluate the combination of Guduchi and Bala in Shvetapradara through larger, multicentre randomised controlled trials with longer follow-up to confirm efficacy and to assess the durability of response and the prevention of recurrence. The inclusion of additional objective parameters, including microbiological examination of vaginal discharge, inflammatory markers, and standardised quality-of-life measures, would provide a more comprehensive assessment of benefit. Comparison of the combination with standard conventional therapy, and evaluation of different doses, formulations, and durations, would help to define its optimal use. Mechanistic studies using standardised extracts to clarify the antimicrobial, anti-inflammatory, and immunomodulatory contributions of each drug, and trials in specific subgroups such as recurrent and infective leucorrhoea, would further establish the role of this combination in the management of Shvetapradara and related disorders of Stri Roga.

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