RESEARCH PAPER

Kush Mool (Desmostachya bipinnata Stapf) Churna in Raktapradara (Menorrhagia): Observations from a Pilot Clinical Study

Dr. Pooja Subhash Lakade[1], Dr. Pradnya Shirke[2*]
[1*]Post Graduate Scholar, Department of Prasuti Tantra-Stree Roga, Dr. D. Y. Patil College of Ayurved & Research Centre, Pimpri, Pune, Maharashtra, India.
Email: plakade24@gmail.com
[2]M.S., Department of Prasuti Tantra-Stree Roga, Dr. D. Y. Patil College of Ayurved & Research Centre, Pimpri, Pune, Maharashtra, India.
Email: shirkepradnya12@gmail.com

Corresponding author[*] - Dr. Pradnya Shirke, Email: shirkepradnya12@gmail.com

Received: 15th Jul, 2026 | Revised: 25th Jul, 2026 | Accepted: 5th Aug, 2026 | Available Online: 12th Aug, 2026

ABSTRACT
Women presenting with prolonged or heavy uterine bleeding constitute an essential part of gynaecological outpatient visits, yet many remain inadequately managed due to the side effects or cost of conventional options. *Raktapradara* in *Ayurveda* encompasses this very spectrum of abnormal uterine bleeding and has been addressed in classical texts through drugs that act on vitiated *Pitta* and *Rakta*. We conducted a pilot study on seven patients to observe the effect of *Kush Mool* (*Desmostachya bipinnata* Stapf) *Churna*- 3 g twice daily with *Tandulodaka* before meals for six days on bleeding duration, pad usage, pain, and menstrual clots. All seven patients showed marked improvement. Mean bleeding duration reduced from 44.4 ± 30.9 days to 5.1 ± 2.3 days by Day 7 ($p = 0.0156$), pad count reduced from 2.57 ± 1.40 to 0.86 ± 0.90 ($p = 0.0156$), dysmenorrhoea resolved completely in all cases ($p = 0.0156$), and menstrual clots disappeared entirely. No adverse effects or need for rescue medication were observed. These findings an 80.9% mean reduction in bleeding duration and 72.9% reduction in pad usage offer preliminary evidence that *Kush Mool Churna* deserves evaluation in a larger, controlled trial.

Keywords: *Raktapradara,* Menorrhagia, Abnormal Uterine Bleeding, *Kush Mool Desmostachya bipinnata*

How to cite this article: Pooja Subhash Lakade1* Dr. Pradnya Shirke2. Kush Mool (Desmostachya bipinnata Stapf) Churna in Raktapradara (Menorrhagia): Observations from a Pilot Clinical Study. Int J Drug Deliv Technol. 2026;16(78s):1281-1285. DOI: 10.25258/ijddt.16.78s.176.

1. INTRODUCTION

Among the conditions described under *Yonivyapada* in classical *Ayurvedic* texts, *Raktapradara* holds a prominent place and rightly so, given how often we come across it in clinical practice. The term literally means excessive discharge of blood from the *Yoni*, and it depicts closely to what modern gynaecology classifies as menorrhagia or abnormal uterine bleeding (AUB). *Acharya Charaka* discusses its management in *Chikitsa Sthana* under the heading *Asrigdara*, while *Acharya Sushruta* enumerates it among the *Yonivyapada* [1,2].

In our OPD at the Prasuti Tantra-Stree Roga Department, cases of prolonged or heavy menstrual bleeding some lasting weeks, a few extending to months are seen regularly. These women often carry diagnoses of dysfunctional uterine bleeding and have either not responded adequately to hormonal therapy or are reluctant to take it. AUB affects nearly 14–25% of women in the reproductive age group worldwide [3] and is one of the commonest reasons for referral, iron-deficiency anaemia, and impaired day-to-day functioning. Standard treatments progestins, tranexamic acid, combined oral contraceptives do help, but they come with side effects and contraindications that limit their use in certain patients [4].

Ayurveda attributes *Raktapradara* primarily to aggravated *Pitta* and *Rakta Dhatu*. The treatment principle is therefore *Pitta-Rakta Shamana* pacification through drugs that are *Kashaya* (astringent), *Sheeta* (cold in potency), and *Stambhana* (haemostatic) in nature.[5] *Kush* (*Desmostachya bipinnata* Stapf, Family: Poaceae) is one such drug. It is a member of *Trina Panchamula* a group of five medicinal grasses and its root (*Kush Mool*) has been used in *Raktapitta* and *Mutravikara* for centuries. Experimental work has identified tannins, flavonoids, saponins, and phenolic compounds in the plant, all of which have pharmacological relevance to haemostasis [6,7].

Despite this classical background and promising phytochemistry, published clinical data on *Kush Mool Churna* in *Raktapradara* are sparse. We therefore undertook this pilot study with a modest but real group of seven patients, with the specific aim of generating preliminary clinical observations that could

justify and inform a future, adequately powered randomised trial.

2. MATERIALS AND METHODS

2.1 Study Design and Setting

This was a prospective, single-arm, open-label pilot study conducted at the OPD and IPD of the Prasuti Tantra-Stree Roga Department, Dr. D. Y. Patil College of Ayurved & Research Centre, Pimpri, Pune, Maharashtra, India. Ethics Committee approval was obtained [IEC Ref. No.: DYPCARC/IEC/857/2024] before the study began, and the trial was registered with the Clinical Trials Registry India [CTRI Reg. No.: CTRI/2025/04/085217]. Written informed consent was taken from each participant in her preferred language.

2.2 Selection of Patients

Women aged 18–50 years presenting with menstrual or continuous uterine bleeding lasting more than five days, with soakage of two or more pads per 24 hours, were included. We excluded patients who had uterine fibroids, polyps, or malignancy confirmed on ultrasonography; those with hypertension, coagulation disorders, or an intrauterine device in situ; women with haemoglobin below 7 g/dL; and those who were pregnant, lactating, or already on haemostatic medication. Seven patients met these criteria and were enrolled consecutively.

2.3 Drug and Preparation

Kush Mool was obtained from a GMP certified Ayurvedic pharmacy and botanical authentication was done. It was processed into *Churna* (80-mesh fine powder) following the Ayurvedic Pharmacopoeia of India (API) method [8]. Before administration, the powder was assessed for organoleptic characters and key physicochemical parameters loss on drying, total ash, acid insoluble ash, and both water- and alcohol-soluble extracts all of which were within API specified limits.

2.4 Treatment Protocol

Kush Mool Churna was given orally at 3 g twice daily once in the morning and once in the evening before food, with 100–150 mL of *Tandulodaka* (freshly prepared rice wash water) as *Anupana*. Treatment continued for six consecutive days. Tab. Pause 500 mg was kept as rescue medication to be prescribed at the treating physician's discretion if bleeding was not controlled. Patients were reviewed in person on Day 3 and Day 7.

2.5 Outcome Assessment

At each visit- Day 0 (baseline), Day 3, and Day 7, we recorded the number of days of bleeding, pad count per 24 hours, dysmenorrhoea on a four-point scale (0 = none, 1 = mild, 2 = moderate, 3 = severe), and the presence or absence of menstrual clots. Patients were advised to maintain a daily diary for pad count and symptom recording between visits.

2.6 Statistical Analysis

Data are expressed as mean ± standard deviation. Given the small sample size (n = 7) and non-normal distribution of some variables, within-group comparisons were made using the Wilcoxon signed-rank test. Analysis was done using Python SciPy v1.11. A p-value below 0.05 was taken as statistically significant.

3. RESULTS

All seven patients completed the study without dropout. Their ages ranged from 21 to 40 years (mean 29.4 ± 7.8 years). Three of the seven had been experiencing continuous bleeding for two to three months. Individual data are presented in Table 1.

Table 1. *Individual patient data at baseline and follow-up (n = 7)*

Pt.	Age (yrs)	Bleeding Duration	Pads/Day D0	Pads/Day D3	Pads/Day D7	Pain D0 → D7	Clots
1	30	15–20 days → 2 days	1	1	0	2 → 0	Present → Absent
2	21	15 days → 7 days	2	2	1	1 → 0	Present → Absent
3	24	2–3 months → 7 days	5	4	2	1 → 0	Present → Absent
4	40	2–3 mo	4	2	2	2 →	Pres

		nths → 7 days				0	ent → Absent
5	40	8 days → 3 days	2	2	0	1 → 0	Present → Absent
6	28	2–3 months → 3 days	2	1	0	1 → 0	Present → Absent
7	23	1–2 months → 7 days	2	2	1	1 → 0	Present → Absent

D0 = Day 0 (Baseline); D3 = Day 3; D7 = Day 7. Pain scale: 0 = none, 1 = mild, 2 = moderate.

3.1 Bleeding Duration

The change in bleeding duration was the notable finding. The mean duration at baseline was 44.4 ± 30.9 days, which was significantly impacted by three patients who had been bleeding continuously for months. This decreased to 5.1 ± 2.3 days (p = 0.0156) by Day 7, indicating an 80.9% mean reduction. Even Patient 5, who had the shortest baseline duration of eight days, demonstrated a significant reduction to three days. By Day 7, Patient 1, who had been bleeding for 15–20 days, had completely stopped.

3.2 Pad Count

Pad usage reduced progressively across the study period. The mean pad count per 24 hours went from 2.57 ± 1.40 at Day 0 to 2.00 ± 1.00 at Day 3, and further to 0.86 ± 0.90 at Day 7. The reduction from baseline to Day 7 was statistically significant (W = 0, p = 0.0156). Three patients (Patients 1, 5, and 6) required no pads at all by Day 7. The stepwise decrease from Day 3 to Day 7 was also statistically significant (p = 0.0312), suggesting a progressive rather than abrupt haemostatic effect.

3.3 Dysmenorrhoea and Menstrual Clots

Every patient reported complete resolution of dysmenorrhoea by Day 7. The mean pain score dropped from 1.29 ± 0.49 at baseline to zero (W = 0, p = 0.0156). Two patients who had presented with moderate pain (score 2) Patients 1 and 4 were entirely pain-free by their Day 7 review. Menstrual clots, which were present in all seven patients at the time of enrolment, were absent in every case by Day 7.

Table 2. *Summary of outcome measures: baseline vs. Day 7 (n = 7)*

Parameter	Baseline (Day 0) Mean ± SD	Day 7 Mean ± SD	p-value*
Bleeding duration (days)	44.4 ± 30.9	5.1 ± 2.3	0.0156
Pad count / 24 hours	2.57 ± 1.40	0.86 ± 0.90	0.0156
Dysmenorrhoea score	1.29 ± 0.49	0.00 ± 0.00	0.0156
Menstrual clots (present)	7/7 (100%)	0/7 (0%)	—

**Wilcoxon signed-rank test; SD: Standard Deviation; W = 0 for all significant comparisons.*

3.4 Safety and Rescue Medication

No patient reported any adverse effect gastric discomfort, nausea, or allergic reaction during the treatment period. Rescue medication was not required in any of the seven cases. This is a clinically meaningful point: the drug worked within the six-day window without requiring supplementation.

4. DISCUSSION

When we started this study, we were uncertain how much of a difference a single Ayurvedic drug given for six days could make particularly in patients who had been bleeding for months. The results were more positive than expected. The most striking thing is not just the statistical significance, but the clinical magnitude of the change: an 80.9% mean reduction in bleeding duration, complete cessation in some, and not a single patient requiring rescue medication.

The *Ayurvedic* rationale is grounded in classical texts. *Kush* is described to have *Kashaya Rasa*, *Sheeta Veerya*, and *Grahi karma* [9]. In *Raktapradara*, where *Pitta* and

Rakta are both aggravated, these properties are directly applicable. *Kashaya Rasa* achieves *Raktasangraha* (consolidation of blood), while *Sheeta Veerya* pacifies the hot, fluid quality of vitiated *Pitta*. The *Stambhana* property essentially haemostatic is what we likely witnessed clinically in the reduction of flow and disappearance of clots.

From a phytochemical point of view, the tannins present in *D. bipinnata* are known to cause protein precipitation at mucosal surfaces and promote capillary constriction, both of which reduce vascular permeability and blood loss [10]. Flavonoids, through their inhibitory effect on the arachidonic acid pathway, may reduce prostaglandin E2 levels one of the mediators of excessive uterine contractility and endometrial bleeding [11]. These mechanisms align well with what we observed: a progressive, sustained reduction in bleeding over the six-day course rather than an abrupt cutoff.

The choice of *Tandulodaka* as *Anupana* deserves mention. Rice water is not merely a vehicle. Classical texts describe it as *Grahi, Sheeta*, and *Laghu* properties that complement and potentiate the primary drug [12]. It is also easily available, affordable, and well-tolerated, making it feasible for routine clinical use.

The complete resolution of clots in all patients is worth discussing separately. In *Ayurveda*, menstrual clots are understood as *Sama Rakta* (blood vitiated with *Ama)*. The disappearance of clots suggests not just haemostasis but also a corrective action on the quality of *Rakta*. Whether this has a correlate in the reduction of endometrial prostaglandins or improved fibrinolytic balance is something future studies with haematological parameters can explore [13].

We are aware of the limitations here. Seven patients, no control arm, no haemoglobin or PBAC scoring, and a single-centre design all of these constrain the conclusions we can draw. Three patients had bleeding durations measured in months rather than days, which introduces heterogeneity. We have not separated findings by aetiology. These are honest gaps, and they are exactly what a pilot study is meant to reveal. The data we have collected are sufficient to estimate effect sizes, confirm feasibility, and justify a larger randomised controlled trial with objective measurements including haemoglobin, PBAC score, and endometrial thickness.

5. CONCLUSION

In seven patients with *Raktapradara* ranging from heavy menstrual bleeding to months of continuous uterine blood loss, *Kush Mool Churna* given at 3 g twice daily with *Tandulodaka* for six days produced a clinically relevant and statistically significant reduction in bleeding duration, pad usage, and pain, with complete resolution of menstrual clots. The drug was well-tolerated and required no supplementation. These findings, while preliminary, provide a basis for evaluating *Kush Mool Churna* in a properly powered, randomised, placebo-controlled trial with comprehensive objective outcome parameters. Given its ready availability, low cost, and deep classical foundation, this drug has real potential as a front-line Ayurvedic intervention for *Raktapradara*.

DECLARATIONS

Ethical Approval: Obtained from the Institutional Ethics Committee, Dr. D. Y. Patil College of Ayurved & Research Centre, Pimpri, Pune
[IEC Ref. No.:DYPCARC/IEC/857/2024].

Informed Consent: Written informed consent was obtained from all seven participants in their preferred language prior to enrolment.

Trial Registration: Registered with the Clinical Trials Registry India
[CTRI Reg. No.: CTRI/2025/04/085217].

AI Assistance Disclosure: AI-assisted writing tools were used in the initial drafting of this manuscript. All content was subsequently reviewed, revised, and verified by the authors, who take full responsibility for the accuracy and integrity of the final text.

Conflict of Interest: None declared.

Funding: This study received no external funding.

Author Contributions: [Author 1]: study design and clinical management, drug preparation and pharmaceutical analysis [Author 2]: Data analysis,Guidance.All authors reviewed and approved the final manuscript.

REFERENCES

[1] Agnivesha. Charaka Samhita, Chikitsa Sthana, Chapter 30 (Yonivyapad Chikitsa). Edited by Vaidya Jadavji Trikamji Acharya. Varanasi: Chaukhamba Sanskrit Pratishthan; 2011. p. 652–660.

[2] Sushruta. Sushruta Samhita, Uttara Tantra, Chapter 38 (Yonivyapad Nidana). Edited by Vaidya Jadavji Trikamji Acharya. Varanasi: Chaukhamba Sanskrit Pratishthan; 2010. p. 612–618.

[3] Munro MG, Critchley HOD, Fraser IS; FIGO Menstrual Disorders Working Group. The two FIGO systems for normal and abnormal uterine bleeding symptoms and classification of causes of abnormal uterine bleeding in the reproductive years: 2018 revisions. Int J Gynaecol Obstet. 2018;143(3):393–408.

[4] National Institute for Health and Care Excellence. Heavy Menstrual Bleeding:

Assessment and Management. NICE Guideline NG88. London: NICE; 2021.
[5] Vagbhata. Ashtanga Hridayam, Uttara Sthana, Chapter 34 (Yonivyapad Pratishedha). Edited by Harishastri Paradakara Vaidya. Varanasi: Krishnadas Academy; 2009. p. 890–898.
[6] Singh R, Singh B, Singh S, Kumar N, Kumar S, Arora S. Anti-free radical activities of aqueous extract of Desmostachya bipinnata. Pharmacognosy Res. 2010;2(4):216–220.
[7] Rawal RS, Bhatt ID, Dhar U. Phenolic content and antioxidant potential of Desmostachya bipinnata Stapf — a sacred grass of the Indian subcontinent. Sci World J. 2009;9:1112–1119.
[8] Ayurvedic Pharmacopoeia of India (API), Part I, Vol. 1. New Delhi: Ministry of Health and Family Welfare, Government of India; 1999.
[9] Sharma PV. Dravyaguna Vijnana, Vol. 2. 15th ed. Varanasi: Chaukhamba Bharati Academy; 2005. p. 726–728.
[10] Okuda T, Yoshida T, Hatano T. Pharmacologically active tannins isolated from medicinal plants. Basic Life Sci. 1992;59:539–569.
[11] Panche AN, Diwan AD, Chandra SR. Flavonoids: an overview. J Nutr Sci. 2016;5:e47.
[12] Narayana Murthy CS. Anupana in Ayurveda: critical analysis and therapeutic significance. Anc Sci Life. 2013;33(1):28–33.
[13] Krishnamurthy MN, Shenbagam M, Nalini N. Inhibitory effect of Desmostachya bipinnata on lipid peroxidation and enhancement of antioxidant status in rats. Fundam Clin Pharmacol. 2011;25(1):39–45.