ISSN 2456-3110
Vol 8 · Issue 9
September 2023

JAiMS
INTERNATIONAL

Journal of Ayurveda and Integrated Medical Sciences

www.jaims.in

JAIMS

An International Journal for Researches in Ayurveda and Allied Sciences

Maharshi Charaka
Ayurveda

Indexed

Journal of
Ayurveda and Integrated Medical Sciences
ISSN 2456-3110
ORIGINAL ARTICLE September 2023

The effect of *Bhumyamalaki Churna* and *Kusha Mula Churna* in the management of *Asrigdara* w.s.r. to Menorrhagia

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ABSTRACT

Background: Now a days in fast developing globalized era, the percentage of working women are more. Due to the busy schedule, she is unable to follow *Paricharyas* as mentioned in *Samhitha*, such as *Rajaswala Paricharya, Sutika Paricharya.* Due to which women are prone for menstrual disorders. One fifth of the women have the problem with heavy menstrual blood loss at some period of their reproductive life. One among them is Menorrhagia. Prolonged bleeding causes psychological upset like discomfort during work, lack of concentration, mental disturbance etc. Menorrhagia is defined as cyclic bleeding at normal interval; the bleeding is either excessive in amount (>80ml) or duration (>7days) or both. Menorrhagia is largely responsible for iron deficiency and iron deficiency anaemia, both of which have negative effect on women health. *Acharyas* explained both *Shamana Chikitsa* and *Shodhana Chikitsa* for *Asrugdara*. Among *Shamana Chikitsa Bhumyamalaki Churna* and *Kusha Mula Churna* are mentioned by *Bhaishajya Ratnavali* and *Chakradatta* respectively. *Bhumyamalaki* and *Kusha Mula* have *Kashaya* and *Madhura Rasa, Shita Virya* and *Madhura Vipaka,* does *Pitta Shamana* and *Stambhana Karma.* Both the drugs are easily available hence are opted for the study. **Materials and methods:** The present study was Randomised clinical study where 30 subjects diagnosed with *Asrugdara* was taken in 2 groups with 15 subjects in each group. **Conclusion:** *Bhumyamalaki Churna* is found to be more effective in managing the *Asrugdara* w.s.r. Menorrhagia.

Key words: *Asrigdara, Menorrhagia, Pradara, Rajaswala Paricharya, Sutika Paricharya*

INTRODUCTION

Menstrual cycle is a complex series of physiological changes that occurring in women on a monthly basis. The menstrual cycle is regulated by the endocrine system through the complex interaction of the HPO axis. The normal duration of bleeding is about five days and estimated blood loss is about 20 to 80 ml with an average of 35ml.[1]

The word 'Menorrhagia' is derived from the Greek words 'Meno' meaning uterus and 'Rhegnunai' meaning to burst forth. Menorrhagia which is defined as cyclic bleeding at normal intervals, the bleeding is either excessive in amount (>80ml) or duration (>7days) or both.[2] Globally its occurs in 9-14% of women between menarche to menopause, it is impacting quality of life and imposing financial burden.[3]

In Ayurveda, Menorrhagia can be correlated to the terminology called *Asrugdara. Asrugdara / Rakta Pradara* is one among the *Rakta Pradoshaja Vikara*.[4] It is characterized by *Artava Ati Pravrutti, Deerga Kala Pravrutti, Anruta Kala Pravrutti, Daha* in *Adho Vankshana Pradesha, Shroni, Prushta* and *Kukshi, Shoola* in *Garbhashaya Angamardha* etc. It is *Pitta Pradhana Tridoshaja Vyadhi.*[5]

The treatment of menorrhagia is mainly consisting of hormonal therapy which in long term use may lead to

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Submission Date: 02/08/2023 Accepted Date: 30/08/2023

Access this article online

Quick Response Code

Website: www.jaims.in

DOI: 10.21760/jaims.8.9.6

ISSN: 2456-3110 ORIGINAL ARTICLE September 2023

side effects. Hence it becomes the need for time to find out an effective, non-hormonal remedy which is simple, easily available, cost effective and easy to administrate for the cure of *Asrigdara.* By Keeping all these in mind, this study had been designed to work out the clinical evaluation of effectiveness of *Bhumyamalaki* and *Kusha* in *Asrigdara.* This study is intended to know the effectiveness of a single drug administration in *Asrigdara* over the combined formulation.

AIM

To evaluate whether the *Bhumyamalaki Churna* and *Kusha Mula Churna* have better effect in the management of *Asrugdara* w.s.r. to Menorrhagia.

OBJECTIVE

1. To evaluate the efficacy of *Bhumyamalaki Churna* in the management of *Asrugdara*.
2. To evaluate the efficacy of *Kusha Mula Churna* in the management of *Asrugdara*.
3. To compare the efficacy of *Bhumyamalaki Churna* along with *Kusha Mula Churna.*
4. Efficacy was evaluated with PBAC score.

Study Design - A randomized open labelled comparative clinical study.

Selection of the subjects

The present study was carried out for the subjects from OPD & IPD, Dept. of Prasuti Tantra and Streeroga, SSCASR, Bengaluru.

Method of collection of data

Inclusion criteria

1. Subjects with the age between 18 to 45 years irrespective of their marital status.
2. Subjects with classical symptoms of *Asrugdara* i.e., Excessive and/or prolonged blood loss during menstruation.
3. Subjects with symptoms of Menorrhagia i.e., Bleeding more than 7 days and/or Excess in amount (>80ml).

Exclusion criteria

1. Structural abnormalities like Polyp, Fibroid uterus, Adenomyosis, Endometriosis, Malignancy etc.
2. Subjects with Pelvic inflammatory disease
3. Subjects with IUCD
4. Subjects with post-menopausal bleeding
5. Subjects with Pregnancy
6. Subjects with other systemic illness
7. Subjects with known case of bleeding disorders.

Consent: Written informed consent and voluntarily willing patients was taken for this study.

MATERIALS AND METHODS

The present study was Randomised Clinical Study where 30 subjects diagnosed with *Asrugdara* was taken from OP and IP of *Prasuti Tantra* and *Streeroga* department of Sri Sri College of Ayurvedic Science and Research Hospital, Bengaluru.

Drug Review

Drugs	***Bhumymalaki***[6]	***Kusha***[7]
Botanical name	*Phyllanthus niruri* sensce (Hook.f)	*Demostachya bipinnata* (Stap.F)
Family	Phyllanthaseae	Poaceae
Rasa	*Tikta, Kashaya* and *Madhura*	*Kashaya, Madhura*
Guna	*Laghu, Ruksha*	*Laghu, Snigdha*
Virya	*Sheeta*	*Sheeta*
Vipaka	*Madhura*	*Madhura*
Prabhava	*Kapha Pitta Shamaka*	*Tridosha Shamaka*
Synonyms	*Bahu Patra, Tamalaki, Bahu Virya, Vrushya, Bhudhatri.*	*Pavitra, Yagnanga, Samstara, Mahadarbha, Mahamula, Lavakusha*
Useful part	*Panchanga*	*Mula*

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Intervention method

Groups	Drug	Dosage	Time of administration	Duration	*Anupana*
Group A	*Bhumyamalaki Churna*	6g/BD	Before Food	From 4th day of cycle for 3 days X 2cycles	*Tandulodaka*
Group B	*Kusha Mula Churna*	6g/BD	Before Food	From 4th day of cycle for 3 days X 2cycles	*Tandulodaka*

Follow up

1st Follow up - 7th day of 1st cycle.

2nd Follow up - 7th day of 2nd cycle.

Assessment Criteria

1. Subjective Criteria

Gradation	Quantity of Bleeding	Duration of Bleeding	Lower Abdominal Pain	Lower Backache	Bodyache
0	-	-	No pain	No pain	Absent
1	3pads/pads	3-5days	Mild pain	Mild pain	Present
2	4pads/day	5-7days	Mod. Pain	Mod. Pain	-
3	5-6pads/day	7-10days	Severe pain	Severe pain	-
4	>7pads/day	>10days	-	-	-

2. Objective Criteria

Hb gm% - Before treatment and After Treatment

Observation and Result

In the present study before starting the treatment, patients were observed for each assessment criteria's for each group and recorded as well as investigations were done as per criteria of assessment. All the subjects were observed before and after the treatment.

Statistical analysis of the assessment criteria

Parameter	Group	After 7th day of 1st cycle		After 7th day of 2nd cycle	
		P value	ESD Value	P value	ESD value
Quantity of Bleeding	Group A	<0.001	0.34	0.002	0.2
	Group B	0.002	0.2	0.073	0.2
Duration of Bleeding	Group A	<0.001	0.32	0.017	0.2
	Group B	<0.001	0.39	0.005	0.2
PBAC Score	Group A	<0.001	0.38	<0.001	0.5
	Group B	<0.001	0.41	<0.001	0.43
Lowbackache	Group A	0.22	0.11	0.67	0.08
	Group B	0.12	0.14	0.35	0.12
Pain in Lower Abdomen	Group A	0.002	0.29	0.017	0.25
	Group B	0.13	0	0.13	0
Body Ache	Group A	0.36	0	0.36	0

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	Group B	0.12	0.14	0.51	0.10
Clot Size	Group A	0.12	0.14	0.13	0.18
	Group B	0.12	0	0.51	0
Haemoglobin	Group A	-	-	0.005	0.1
	Group B	-	-	0.21	0.1

Overall effect of the drug

Comparison between the group

1. Quantity of bleeding

Amount of blood loss at different points of time (Data: Median, 25th & 75th percentile)				
Group	**0th Day**	**7th Day of 1st Cycle**	**7th Day of 2nd Cycle**	**Remark**
Group A	2.00(1.00-2.00)	1.00 (0.00-1.00)@	0.00 (0.00-1.00)@	@P value <0.001, highly significant change with in both group with Wilcoxon Signed Rank Test.
Group B	2.00(1.00-2.00)	1.00 (0.00-1.00)@	1.00 (0.00-1.00)	

2. Duration of bleedin

Duration of blood loss at different points of time (Data: Median, 25th & 75th percentile)				
Group	**0th Day**	**7th Day of 1st Cycle**	**7th Day of 2nd Cycle**	**Remarks**
Group A	2.00 (1.00-2.00)	1.00 (0.00-1.00)@	1.00 (0.00-1.00)@	@P value <0.001, highly significant change with in both group with Wilcoxon Signed Rank Test
Group B	2.00 (1.00-2.00)	1.00 (0.00-1.00)@	1.00 (0.00-1.00)@	

3. PBAC Score

PBAC Score at different points of time (Data: Median, 25th& 75th percentile)				
Group	**0th Day**	**7th Day of 1st Cycle**	**7th Day of 2nd Cycle**	**Remark**
Group A	252 (159.00-300.00)	180.00 (110.00-250.00)@	110.00 (98.00-204.00)@	@P value <0.001, The results indicate almost equal therapeutic benefit in both the groups - with Group A exhibiting slightly better effect.
Group B	251.00 (205.00-304.00)	170.00 (104.00-228.00)@	156.00 (94.00-210.00)@	

Highly significant improvement in Amount of bleeding (p value <0.001) and Duration (p value <0.001) whereas Group B showed no significance for Amount of bleeding but highly significant for duration (p value <0.001).

PBAC SCORE - P value <0.001, The results indicate almost equal therapeutic benefit in both the groups - with Group A exhibiting slightly better effect. But clinically Group A patients showed better results compared to Group B.

Overall Assessment	Group A		Group B	
	N	%	N	%
Minor Improvement (Grade 1)	2	13.33%	9	60%
Moderate Improvement (Grade 2)	4	26.66%	4	26.66%
Marked Improvement (Grade 3)	7	46.66%	2	13.33%
Complete Improvement	2	13.33%	0	0%

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(Grade 4)				
Remarks	Though apparent difference existed between the group it did not reach statistically significant level (P-0.238)			

Discussion

For a woman "*Raja"* is defining factor for her very existence. *Shuddha Raja* or *Artava* is one among the *Garbha Sambhava Samagri* and is most essential factors for the healthy progeny.

In our classics *Raja* is described as *Upadhatu* of *Rasa* and *Rakta Dhatu. Upadhatu* is nourished from *Prasada Bhaga* of *Dhatu* i.e., from that *Sukshma Prasadaja Bhaga* of *Dhatu*. *Dhatwagni, Vayu* and *Srotas* plays significant role in proper nourishment of *Upadhatu. Vayu* is responsible for conveyance of specific amounts of nutrients to a particular *Upadhatu.* '*Srotas*' are the channels of transportations and transformation enabling this conveyance. *"Parinama Apadhyamana Dhatu*" travels through the *Srotas*, and; for this to happen *Dhatwagni* which is residing in that particular *Srotas* is an essential factor for transformation. Any vitiation of *Vayu (Apana Vata)* and *Agni* lead to *Artava Dushti.*

Rasa Dhatu is considered as *Sowmya Dhatu*, whereas *Raja* as *Agneya.* "*Karya-Karana Siddhanta*" is applicable here that is, "*Parinama Vishesat Karana Visadarsam Karyam Bhavati*" | Su.Su.4/7-*Bhanumati*.

During the process of formation of *Artava* is *Sowmya*, due to the influence of *Rasa*, while at the time of its excretion due to specific changes it assumes *Agneya* character. We can also understand this change with the help of modern science.

Ahara Rasa or *Rasa Dhatu* is having nutritive substances like glucose, amino acids, fatty acids etc.

Some reproductive hormones like FSH and LH are made by protein. Steroidal hormones like oestrogen and progesterone are made by Cholesterol.

If *Ahara Rasa* or *Rasa Dhatu* is having all nutritive substances in proper quantity and quality, the body secretes the proper amount of hormones there by proper endometrial thickness and shedding. Any imbalance in these leads to *Asrugdara*.

Other than *Asrugdhara* certain *Yoni Vyapat* like *Asrija, Rakta Yoni, Lohitakshara, Ekadoshaja Yonivyapat,* Excessive bleeding during menstruation may be a disease, may be a symptom of other disease or may be a complication of a disease.

Probable action of the drugs

Mode of action of *Bhumyamalaki* on excessive bleeding:

Bhumyamalaki might affect *Sara* and *Drava Guna* of *Pitta* with the help of *Ruksha, Laghu Guna* and *Kashaya Rasa. Sheeta Veerya* possess *Sthambana* and *Pittahara* properties there by reduces the amount of bleeding.

Based on chemical constituents:

Controls bleeding by

- The Action of progesterone hormone and maintains $PgF2_{\alpha}$ & PgE ratio
- It binds to the Lysine binding site on Plasminogen and prevents its combination with Fibrin like Epsilon Amino-caproic Acid (EACA).

Phenols & Lignans - Phylatralin, niretralin, niranthin acts as anti-inflammatory by inhibiting nutrophilic influx and cox 2 and cytokines via NF- Kappa B pathway.[8],[9]

Mode of action of *Kusha* on excessive bleeding

Madhura Rasa - It has action of *Pitta Shamana.*

Snigdha Guna and *Sheeta Veerya* possess S*thambana* and *Pittahara* properties.

As mentioned in *Adhoga Rakta Pitta Chikitsa, Adhoga Rakta Pitta* caused due to *Ruksha, Ushan Guna* can be treated with *Snigdha Sheeta Guna.*

- Daucosterol or β sitosterol D- glucopyranoside acts on pathogens and controls infection.
- Antioxidant activity of hydro methanolic root is potent scavenger of hydrogen peroxide radicals, helps in reducing the menorrhagia due to oxidative stress.[10]
- Hydro methanolic extract of *Kusha* acts as an antispasmodic effect.

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Mode of action of *Tandulodaka*

- *Tandulodaka* is having *Madhura, Kashaya Rasa, Sheeta Virya* which is effectively does *Rakta Sthambana Karma* and *Madhura Rasa* nourishes *Rasa Dhatu.*
- Vitamin B; normalize estrogen metabolism and Thiamine, improves endothelial activity of arteries there by controlling excessive bleeding.

CONCLUSION

The present study is a clinical study with pre-test and post-test design where 30 subjects diagnosed as *Asrigdara* were randomly assigned into 2 groups, Group A and Group B, comprising of 15 subjects in each group. Amount and duration of bleeding is improved significantly in both the groups but clinically, group A showed marked improvement in Amount of bleeding whereas Group B showed improvement in Duration of bleeding. Group A is having significant effect in reducing the lower abdominal pain during menstruation. 60% and 30% of clinical improvement could be observed in Group A and Group B respectively. Both groups having significant effect in reducing the low backache during menstruation, 33% and 62% of clinical improvement could be observed in Group A and Group B respectively. Reduction in clot size was significant within Group A compared to Group B. Group A is having significant effect within and between the group in haemoglobin levels. 66% showed mild and 20% showed moderate improvement in Hb% in Group A.

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How to cite this article: Maheshwari Danappagoudara, Savita S Patil. The effect of Bhumyamalaki Churna and Kusha Mula Churna in the management of Asrigdara w.s.r. to Menorrhagia. J Ayurveda Integr Med Sci 2023;09:34-39.
http://dx.doi.org/10.21760/jaims.8.9.6

Source of Support: Nil, **Conflict of Interest:** None declared.

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