

**A CLINICAL COMPARATIVE STUDY OF BHUMYAMALAKI CHURNA WITH
TRANEXEMIC ACID IN ASRUGDARA WITH SPECIAL REFERANCE TO
MENORRHAGIA**Suvarna R. Borste^{1*}, Bhushan B. Mogal² and Rachana V. Phartale³¹Assistant Professor, Dept. of Streeroga & Prasutitantra, S. S. A. M. & H., Nashik.²Assistant Professor, Dept. of Agadtantra, A. S. S. Ayurved College, Nashik.³Assistant Professor, Dept. of Agadtantra, S. S. A. M. & H., Nashik.***Corresponding Author: Dr. Suvarna R. Borste**

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ABSTRACT

Menstruation, conception and motherhood are the creative aspects of Procreation. Menstruation is visible manifestation of cyclic, physiologic uterine bleeding due shedding of endometrium. *Asrugdara* or *Raktapradara* in Ayurveda is characterized by excessive or prolonged menstruation with or without intermenstrual bleeding. The symptoms of *Asrugdara* which are elaborated in Ayurveda possess a close resemblance to menorrhagia. Menorrhagia is heavy or prolonged menstrual bleeding. It can be related to a number of condition including problem with uterus, hormonal problem or other conditions. In modern medicine haemostatic, analgesic and hormonal therapies are advised for menorrhagia, which has limitations hence it is need of time to have an integrated and comprehensive therapeutic intervention in Ayurveda to prevent recurrence. *Shodhana* and *Shamana* therapies are advised but if *rugnabala* is diminished then only *Shamana* is advisable. Many herbal and herbomineral preparations are mentioned in Ayurveda to cure *Asrugdara*. *Bhummyamalaki* (*phyllanthus niruri*) has an astringent, haemostatic and refrigerant properties therefore, comparative experimental study the effect of a *Bhummyamalaki* in the comparison with modern medicine Tranexemic Acid for the treatment of *Asrugdara*. *Bhummyamalaki churna* along with *Tandulodaka* is useful in *Raktapitta*, Bleeding disorders like nasal bleeding and heavy bleeding, chronic dysentery, increasing the heamoglobin count without producing any adverse effect and is as effective as Tranexemic acid.

KEYWORDS: *Bhummyamalaki*, *Tandulodaka*, *Asrugdara*, Tranexemic Acid.**INTRODUCTION**

From Vedic periods onwards, a women has been given peerless position in the society for her constitutional *Prakruti dharma* (*Prasavam*) for the creation of entire human being. Menstrual abnormalities can affect the emotional and physical activities. It is generally caused by condition affecting the uterus or its vascularities, rather than any disturbances of function of Hypothalamic-Pituitary-Ovarian axis.^[1] *Pradar* due to *pradira*n (excessive excretion) of *Raja* (menstrual blood) it is called as *Pradara* & since, there is *dirana* (excessive excretion) of *asrk* (menstrual blood) hence, it is known as *Asrugdara*. According to above description, *Asrugdara* appears to be description of Menorrhagia i.e excessive and or prolonged bleeding during menstrual cycle.^[2]

The women who consumes excessive salty, sour, heavy, *katu* (hot), *vidahi* (producing burning sensation), meat of domestic, aquatic, fatty animals, her aggravated *vayu* withholding the *Rakta* (blood) vitiated due to above

causes increases its amount and then reaching *Rajas* caring vessels (branches of ovarian and uterine arteries) of the uterus, increases immediately the amount of *Raja* (menstrual blood).^[3] Charaka has described the only symptoms i.e presence of excessive bleeding during menstruation. Menorrhagia denotes cyclic regular bleeding which is excessive in amount or duration. Just like *Raktayoni* here also haemostatic drug should be used. Treatment prescribed for *Raktatisara*, *Raktapitta*, *Raktarsha* are also used in *Asrugdara*. Both *Shodhana* and *Shamana chikitsa* are used to treat the symptoms of *Raktapradara* according to *rugnabala*. In *Shamana chikitsa* we should used herbal, herbomineral formulations so, it is great scope of research to find out safe, potent and cost effective remedy from *Ayurveda*.^[4] In *Shodhana chikitsa*, use of *Basti* and Purgation is beneficial.

Various treatment modalities prescribed in modern medicine like hormonal treatment, antifibrinolytic agent, Dilatation & Curratage etc. have not prove their definite

efficacy in spite high price and side effect. The present study is aimed to find out the effect of a herbal drug in the comparison with modern medicine Tranexemic Acid for the treatment of *Asrugdara*, which should prevent the heavy bleeding and irregularities of menstrual cycle due to increased vitiated *Doshas*. Tranexemic Acid is an antifibrinolytic medication commonly used to treat or prevent excessive blood loss from major trauma, postpartum bleeding, surgery, heavy menstruation or Menorrhagia.^[5]

For the study purpose Author has selected *Bhumyamalaki moola churna* along with *Tandulodaka* for oral administration in the patient of *Asrugdara*. As *Bhumyamalaki* being properties *Vranropana*, *Shothhara*, *Rakta shodhana*.^[6] *Bhumyamalaki churna* and *Tandulodaka* have properties of *Kapha-Pittashamaka*, astringent and *Dahashamaka* which helps to minimize excessive bleeding and other symptoms of *Asrugdara*, therefore to find out the efficacy of herbal drug in comparison of modern medicine Tranexemic Acid, we have chosen *Bhumyamalaki churna* with *Tandulodaka* for this study.

AIM

To study the comparison between effect of *Bhumyamalaki churna* and Tranexemic Acid in *Asrugdara* with special reference to Menorrhagia.

OBJECTIVES

- To evaluate the mechanism of action of *Bhumyamalaki churna* in *Asrugdara*.
- To compare the effect of *Bhumyamalaki churna* with Tranexemic Acid on endometrial thickness and Haemoglobin percentage in *Asrugdara*.

Ayurvedic properties^[7]

Sr. no.	Content	Rasa	Virya	Vipaka	Guna	Karma
1	<i>Bhumyamalaki</i>	<i>Tikta-Kashaya-&Madhur</i>	<i>Sheeta</i>	<i>Madhura</i>	<i>Laghu, Ruksha</i>	<i>Kapha Pittashamaka</i>

Action of *bhumyamalaki* according to *guna*

In the pathogenesis of *Asrugdara*, *Chala Guna* of *Vata* and *Sara & Drava Guna* of *Pitta* increases the amount of blood.



Hence *Bhumyamalaki* might affect *Sara & Drava Guna* of *Pitta dosha* with the help of *Ruksha, Laghu Guna & Kashaya Rasa*.



Decreases the amount of bleeding



Laghu & Ruksha Guna having a *Kaphapitta Shamana & Shoshana* properties

- To compare the effect of *Bhumyamalaki churna* and Tranexemic Acid in symptoms of *Asrugdara*
- To provide herbal, cost effective management and to avoid surgical intervention in women with reproductive age group.

MATERIAL AND METHODS

Drug for study: *Bhumyamalaki churna* with *Tandulodaka* & Tranexemic Acid - 500 mg

Scientific classification of *Bhumyamalaki*: Latin name - *Phyllanthus niruri*

Family: Euphorbiaceae

Part used: Whole plant

Action & Uses: *Bhumyamalaki* is used to treat hemorrhage, chronic dysentery, oedema, *Pradara*, *Prameha*, *Pittasra-Raktapitta*, *Daha*, *Kshatasheena*, *Mutraroga* & jaundice.

Rogagnata: *Kaphapittashamaka*

Probable action of the drug (*Bhumyamalaki*)

Probable mode of action of *Bhumyamalaki Churna* through oral administration:

In present study trail Drug is *Bhumyamalaki* with *Tandulodaka*. The drug *Bhumyamalaki* is active due to its own inherent constituent i.e. *Dravya Prabhava*, *Guna Prabhava* and both together in particular time, on reaching at particular site with particular mechanism & objective.

Bhumyamalaki is *Raktastambhaka*, *Raktashodaka*, *Pittashamaka* & *Dahaprashamana*.

Strotoshodhana Tandulodaka

Tandulodaka is that in which the coarsely powdered rice taken in one *pala* (40 ml) quantity and mixed with cold water eight times to rice and the liquid may be obtained by rubbing the rice particles and filtering the liquid with cloth.

- **Latin name:** *Oryza*
- **Marathi:** *Shali, Tandul*
- **Family:** Gramineae
- **Hindi:** *Dhan, Chaval*
- **Rasa:** *Madhura – Kashaya*
- **Veerya:** *Sheeta*
- **Vipaka:** *Madhura*
- **Doshagnata:** *Tridoshaghna*

Role of *Tandulodaka* in *Asrugdara*:

- *Madhura & Kashaya Rasa* – Pacifies *Pitta & Rakta Dosh* which are the main physiological factors to produce *Asrugdara*.
- *Sheet Virya* – Pacifies *Daha & Trushna* in *Asrugdara*.

Tranexamic acid

Tranexamic Acid is a synthetic analog of the Amino Acid Lysine. It is anti fibrinolytic medication commonly used to treat or prevent excessive blood loss from major trauma, Postpartum bleeding, surgery, Tooth removal, nose bleeds and heavy menstruation or menorrhagia.

Action

These drug inhibit fibrinogen activation and dissolution of clot.

It binds to the Lysine binding site on Plasminogen and prevent it's Combination with

Fibrin like Epsilon Amino-caproic Acid (EACA).

It has roughly 8 times anti fibrinolytic activity of an older analogue EACA.

It also directly inhibits the activity of Plasmin with weak potency & it can block the active site of Urokinase Plasminogen activator with high specificity among all the serine proteases.

Preparation of drug

The powdered root of *Bhumyamalaki* with *Tandulodak* (rice water) will be prepared according to Sharangdhar Samhita.

Acharya Sharangdhara has described the procedure of *Churna* as follows-^[8]

द्रव्यं आर्द्रशिलापिष्टं सुपिष्टं वस्त्रगालितम् ।

- **Criteria for selection of patients**

Sr. no.	Inclusion criteria	Exclusion criteria
1.	Patient with age group 25 to 40 years	Bleeding site other than uterus
2.	Both married and unmarried women	Abortional bleeding
3.	Menstrual flow increase in number of days	Patient with systemic disorders interfering with the present study like DM, HTN, STD, Thyroid dysfunction
4.	Excessive menstrual bleeding quantitatively	Patient with Hb % less than 8 gm%
5.	Dysfunctional Uterine Bleeding	Patient with IUCD AND Patient taking OCP pills
6.	-	Benign and malignant growth in the uterus
7.	-	Coagulation disorders

- **Diagnostic criteria**

A. Subjective criteria

Gradation	<i>Artavaati-pravrutti</i>	<i>Adhodarshoola</i>	<i>Grathita-artavata</i>	<i>Sarvanagamarda</i>
Grade 0	1- 3 Days	Menses not painful	No clots	No pain
Grade 1	4 - 6 Days	Menses painful but daily activities not hampered	1 or 2 clots	Didn't disturbed daily routine, felt only when relaxing
Grade 2	7 - 10 days	Menses painful and daily activities are	3 to 7 clots	Routines were disturbed due to pain

तस्याच्चूर्णरजःक्षोदस्तन्मात्राकर्षसम्मिता ॥ (शा.सं.म. ६/१)

1. *Bhumyamalaki moola* - *Shushka* (Dried root of *Phyllanthus Niruri*)
 2. Single pan electronic digital balance
 3. Cotton cloth or 100 no. mesh
 4. Grinder
- ⇒ For Preparation of *Tandulodaka*:^[9]

कण्डितं तण्डुलपलं जलेऽष्टगुणिते क्षिपेत् ।

भावयित्वा जलं ग्राह्यं देयं सर्वत्र कर्मसु ॥ (शा.सं.म. १/२८)

5. *Kandit Tandula* (Pounded rice)
6. Stainless Steel Pot
7. Table Spoon
8. Sieve / Cotton Cloth

Type of study: Open Randomized Comparative Experimental Study.

Medium of research article: English, supplemented by Ayurvedic terminology whenever necessary in Sanskrit.

No. of patients: Total 60 (two groups of 30 patients) One group is **Trial** and another is **Control group**.

Groups of patients

- **Trial group:** 30 patients
Bhumyamalaki churna 5 gms orally (*Apana kale*) BD with 20 ml of *Tandulodaka* as a *Anupana* for 7 days during menstrual period for 3 consecutive cycles.
- **Control group:** 30 patients
Oral administration of Tab. Tranexamic Acid 500mg 1 TDS for 7 days during menstrual period for 3 consecutive

		slightly hampered		
Grade 3	More than 10 Days	Menses painful and daily activities are hampered and oral treatment required	more than 7 clots	Pain disturbs daily routines as well as sleep could not be tolerated by medicated aid.

B. Objective criteria

2. Hb gm % - Before Treatment & After Treatment

1. USG - Endometrial Thickness – Before & After Treatment

Table 1: Showing comparison between two groups with respect to symptoms score by Mann- Whitney test.

Symptoms	Mean	SD	SE	U	U'	Sum of rank A	Sum of rank B	P
<i>Artavati Pravrutti</i>	0.4667	0.4333	0.5074	0.5683	0.09264	0.1038	427	473
<i>Adhodarshoola</i>	0.4000	0.6000	0.4983	0.5632	0.09097	0.1028	369	531
<i>Grathitartava</i>	0.4333	0.6667	0.5040	0.5467	0.09202	0.09981	353.50	546.5
<i>Sarvanga marda</i>	0.4000	0.5333	0.4983	0.5074	0.09097	0.09264	390	510

Table 2: Showing comparison of results of parametric data between two groups by unpaired-‘t’ Test.

Sr. No.	Objective parameters in respective unit		Mean	SD	SE	t	P
1.	Endometrial Thickness	Group -A	2.276	2.135	0.3897	1.055	0.2959 Not significant
		Group-B	2.807	1.745	0.3186		
2.	HB %	Group-A	-0.2883	0.4717	0.08612	0.7466	0.4583 Not significant
		Group-B	-0.4033	0.6995	0.1277		

DISCUSSION

In present study before starting the treatment, patient were observed for each sign, symptom and status of the symptoms was recorded as well as investigation were done as per criteria of assessment.

Effect on subjective parameters

Both drugs have a extremely significant effect in all symptoms of *Asrugdara* & there was no significant difference found in Trial and Control group. Comparison of results of non-parametric data (subjective) between two groups By Mann-Whittney test shows Trial group is

as effective as Control group in symptoms like *Artavatipravrutti*, *Adhodarshoola*, *Grathitartava* and *Sarvangamarda*.

Effect on subjective parameters

Both drugs have a extremely significant effect on endometrial thickness where as *Bhumyamalaki* shows significant & *Tranexemic Acid* shows extremely significant effect on Hb%. At last, comparison of results of parametric (objective) data between two groups by Unpaired-t test shows that there is no significant

difference in the two groups with respect to the total effect of therapy.

CONCLUSION

- A. Incidence of *Asrugdara* is highest in *Pitta-Vata Prakruti* between the age group 26-38 years.
- B. *Bhumyamalaki churna* is useful in increasing the Haemoglobin count, so it proves the better effectiveness in patients of *Asrugdara* having symptoms of Anaemia.
- C. Oral administration of *Bhumyamalaki churna* with *Tandulodaka* is as effective as Tranexemic Acid and there was no any adverse effect found after administration of *Bhumyamalaki churna* in the patients of *Asrugdara*.

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