



Research Article

THE EFFECT OF JEERAKA AND KRISHNA JEERAKA CHOORNA IN THE INDUCTION OF MENSTRUATION

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ABSTRACT

Menstruation is a normal body function initiated in response to ovarian hormones which in turn is controlled by the hypothalamo-pituitary axis. Menstrual patterns can also be an indicator of health status of the reproductive tract and self-awareness of the reproductive well-being. The causes may be varying right from disturbances in hypothalamus, pituitary, ovary and uterus influencing general health. Hence women who do not get their menstruation on the expected date will try to consume food/medicines whichever they think will induce menstruation at the earliest. The choice of medication to do so is very limited and there are no certain medicines which a gynecologist can prescribe to her patient's in order to bring the menstruation at the earliest which is not expected at the date.

So it will be a great boon to the woman if it can be replaced by natural remedies with no side effects. Present study has been undertaken to evaluate the combined effect of *Jeeraka* and *Krishna jeeraka choorna* in the induction of menstruation. 20 patients complaining of *Anartava* (amenorrhea) of more than 40 days, attending the OPD & IPD of Prasuti Tantra & Stree Roga Department, Sri Dharmasthala Manjunatheshwara Ayurveda Hospital, Kuthpady, Udupi, were selected for the study. Based on the assessment criteria, the data was graded and statistically analysed using wilcoxon's signed rank test and paired T test. After the intervention it was observed that the medicine is having good action in induction of menstruation (85%).

INTRODUCTION

A crucial phase in a young woman's physical development and reproductive maturation begins with menarche. According to the classical theory of the physiology of menstruation, it is the superficial functional layer of the endometrium that is shed during menstruation, and the regeneration proceeds from the remaining intact basalis^[1]. Stressful lifestyle, sleep disturbance, lifestyle modifications are giving rise to menstrual irregularities including amenorrhea. Amenorrhea though not disabling condition, can be disturbing to the woman who is used to regular menstrual cycles^[2].

The prevalence of pathological amenorrhea in reproductive-aged population ranges from 3 to 4%. Unlike olden age now women are engaged in multitasking where days of menstruation will interfere with their routine calendar, hence they need it to be regular and fixed. Amenorrhea is defined as the abnormal absence or cessation of menstruation in women of reproductive age^[3]. Amenorrhea is a symptom that reflects underlying disease in any part of the hypothalamus-pituitary-ovary-uterine axis.

Right from the selection of dresses, attending a religious function, scheduling a journey the routine calendar of a woman's life will be influenced by the expected date of menstruation which may be as simple as selection of dresses to attending a function or scheduling a journey. Long-term menstrual anticipation causes a great deal of stress in women since it frequently necessitates both mental and physical preparations. Many women, maybe understandably, come to the conclusion that any

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deviation from their usual menstrual cycle is abnormal, and will seek therapy for it. Induction of menstruation in prolonged amenorrhea serves as a symptomatic treatment, like in the case of DUB caused by endometrial hyperplasia acting as a therapeutic treatment. On the other hand, some women accept or even overlook considerable fluctuations in their menstrual function, occasionally to the point where serious health consequences result.

The word *Artava* is used in our *Sastras* in various contexts to refer (*Dhatu upadhatu roopa artava*) hormones, (*Beejaroopa artava*) ovum and (*rajas*) menstrual blood. According to *Samprapti*, *Anartava* can be understood as *Vata kapha avarana* to *Artavavaha srotas* and *Dhatu kshaya*. Where in *Vata kapha avarana*^[4] can be caused due to *Santharpana nidanas* (eg. obese PCOS, obesity), *Vata vriddhi* caused due to *Dhatu kshaya kara nidanas* (eg. Sheehans syndrome, lean PCOS).

The *Vata kapha avarana* to *Artava vaha srotas* can be the very first manifestation of pathological amenorrhea i.e., the *Chaya avastha* of *Doshas*, if left as such may progress to conditions like PCOD which is the *Vyaktha avastha* in the *Kriya kala*. So treating the *Dosha* in *Chaya kala* curbs the progression of disease to *Vyaktha avastha* which is *Balavattara*.

In Ayurveda, *Anarthava* as a symptom is taken up as temporary imbalance of the presiding factors like *Doshadushtilakshana* (due to *Atisamshodhanjanya*, *Vegadharanjanya*, *Manasanthapjanya*), or as a symptom of a disease *Vyadhilakshana* (like *Arajaska yoni Vyapat*, *Shandi yoni Vyapat*, *Vandya yoni vyapat*, *Shushka yoni vyapat*, *Rakthagulma*, *Aganthujavyadhi*), or as an *Upadravalakshana* (*Pandu*, *Rajayakshma*, *Shosha*, *Grahani*, *Anashanjanya*, *Atisamshodhana janya*) or as an *Srothoviddha lakshana* (*Artavavaha srothoviddhalakshana*)^[5] or as a symptom of *Mithya yoga* of *Nasya karma* in *Pushpakala*.

In folklore practice it has been considered that the consumption of *Tila ladu*, dates, horse gram, pineapple, *Pappaya* etc will induce menstruation. Women are very sensitive to have her menstruation on time else ways causing stress thereupon disturbance in the HPO axis. These circumstances in turn make a woman dependent on hormonal pills for the induction of menstruation. So, it's an obligation to the treating gynecologist to replace it with safe herbal medicines with lesser side effects.

In view to this, the combination of *Jeeraka* and *Krishna jeeraka choorna* mentioned in the classics possessing properties like *Kaphavatahara*, *Ushna virya*, *Garbhashaya shodhaka*, *Deepana*, *Pachana*, *Vrishya*, *Adhmanahara*, *Marga Vishodaka*, *Gulmaghna*, *Pitta vardhaka*, *Teekshna*, *Agneya*, *Anulomaka* is an ideal drug to be studied in this area^[6].

AIMS AND OBJECTIVES

To evaluate the combined effect of *Jeeraka* & *Krishna jeeraka choorna* in the induction of menstruation.

MATERIALS AND METHODS

- In the study, 20 patients were selected having amenorrhea of more than 40 days irrespective of the underlying pathology from the OPD & IPD of Prasuti Tantra & Stree Roga Department, Sri Dharmasthala Manjunatheswara Ayurveda Hospital, Kuthpady, Udipi, and will be counselled and selected for the study.
- *Jeeraka* & *Krishna Jeeraka* were taken equal in quantity and fried in a dry pan and once it cools to room temperature it was made into *Sookshma choorna* and stored in an airtight container.
- Diet explained.

Inclusion Criteria

- Both married and unmarried women
- Women in the age group of 16-40yrs
- Patient with more than 40 days of amenorrhea
- Sonography of abdomen and pelvis showing PCOD, endometrial hyperplasia.

Exclusion Criteria

- Amenorrhea due to pregnancy and lactation.
- Patient with malnutrition (BMI<16.00), anaemia (<9gm%), debilitating disorders, tuberculosis, epilepsy, bulimia nervosa.
- Patients with premature ovarian failure, hypothyroidism.
- Primary amenorrhea

Assessment Criteria

Signs and symptoms will be evaluated based on subjective parameters.

Subjective Parameters

- Induction of menstruation

Secondary Observations

Duration of Flow

Duration of Flow (in days)	Score
3 days	1
4 days	2
5 days	3
6 days	4
7 days	5
>7 days	6

Amount of Blood Loss

Amount of blood loss	Score
5-10 pads	1
11-15 pads/day	2
16-20 pads/day	3
21-25 pads/day	4
26-30 pads/day	5
31-35 pads/day	6
>35 pads/day	7

Association of Pain

Pain	Score
No pain	1
Mild	2
Moderate	3
Severe	4

Investigations

- UPT
- RBS
- USG (if required)

- Thyroid profile (if required)
- Hb%
- Serum hormone levels (prolactin, FSH, LH) (if required)

Intervention

- On the basis of considering inclusion and exclusion criteria, the patients are assigned in single group of 20 patients.
- Patients were given *Jeeraka* and *Krishna jeeraka choorna* 5gm TID with *Ushnajala* as *Anupana*, before food (*Apana kala*) till the initiation of menstruation or upto 15 days whichever is earlier.

Study Period

- Till the attainment of menstruation or upto 15 days
- Follow up- 15days from the attainment of the menstruation.

RESULTS

Induction of Menstruation

Among 20 patients, in 17 patients' menstruation was induced within 15 days (85%), in 3 patient's menstruation was not induced (15%).

Table 1: Showing Incidence According to Induction of Menstruation

Clinical Conditions	No. of patients	Induction of Menstruation	Menstruation not induced
PCOD	7	5	2
Amenorrhea	13	12	1

Table 2: Showing effect of *Jeeraka* & *Krishna jeeraka choorna* on duration of flow of menstruation

Parameters	Positive			Negative			Tie	Z value	P value	Interpretation
	N	MR	SR	N	MR	SR				
Duration of flow AT-BT	12	6.50	78.00	0	0.00	0.00	5	-3.134	0.002	S

Statistically highly significant results were found in the increase in the duration of flow. It was noticed that in the patient with oligomenorrhea in their regular cycles the quantity of bleeding has increased to normal after treatment with P value 0.002, Z value -3.134.

Table 3: Showing effect of *Jeeraka* & *Krishna jeeraka choorna* on pain during menstruation

Parameters	Positive			Negative			Tie	Z value	P value	Interpretation
	N	MR	SR	N	MR	SR				
Pain during menstruation AT-BT	0	0.00	0.00	7	4.00	28.00	13	-2.646	0.008	NS

Statistically Non-significant results were found in the context of pain during menstruation before and after treatment with P value 0.008 and z value -2.646. But clinically medicine is having good result in the pain during menstruation.

Table 4: Showing effect of *Jeeraka* & *Krishna jeeraka choorna* on weight of the patient

Weight	Mean	N	SD	SEM	M.D.	%	T	P	Interpretation
AT	59.30	20	10.845	2.427	0.200	0.392	2.179	0.42	NS
BT	59.10	20	10.672	2.386					

Statistically we can say that there is no effect on weight of the patient with the medicine.

DISCUSSION

The main treatment modalities of *Anartava* can be the focus of attention on *Samprapthi vighattana*, *Agneya guna vridhhi*^[7], correcting the *Rasadi dhatu kshaya* and *Garbhashaya shodhaka*. According to *Samprapthi*, *Anartava* can be understood as *Vatakapaha avarana* to *Artavavahasrotas*, *Vata vridhi* thereby causing *Dhatu kshaya* etc. If proper management of the *Dosha vikrithi* is done in the *Chaya avastha* of *Kriyakala* i.e., *Jitva doshadou* further *Uttarottara balavath* manifestation of diseases will not be manifested.

Acharyas while explaining the *Chikitsa* of *Avarana samprapthi* have mentioned *Vatakapaha nashaka*, *Teekshna- Ushna chikitsa* has to be adopted. *Agneya guna* of *Dravyas* counteracts the *Sheetaguna* of *Vatakapadosha* and it is *Pitta vardhaka*. *Deepana*, *Pachana* action of the drug vanquish *Agnidushti*, *Adhmanahara Gulmaghna* properties will help in *Srothoshodhaka*, *Anulomana*, *Garbhashaya Shodhaka guna* helps in evacuating the uterus thereby inducing

menstruation. In an experimental study it was observed that the content *cuminin* in *Jeeraka* has estrogen like activity and the aqueous, ethanolic extract will cause uterine contractions thereby initiating menstruation.

In overall study subjects of 20, 17 patients' menstruation was induced within 15 days (85%), where as in 3 patient's menstruation was not induced (15%). Amidst which two were having *PCOD* features, 1 Patient was having *Vatakapaha anartava* and where *Nidana parivarjana* was not done. The compiled result obtained from the clinical study carried out on 20 subjects, concludes that *Jeeraka & Krishna jeeraka choorna* is having good outcome in the induction of menstruation.

Probable Action of Test Drug

The drugs are having *Katu rasa*, *Katu vipaka*, *Ushna virya*, *Laghu*, *Rooksha gunas*, *Karmas* like *Deepana*, *Pachana*, *Krimihara*, *Balya*, *Vrushya*, *Gulmahara*, *Garbhashaya Shodhaka*, *Pitta Vardhaka*, *Anulomana* and *Adhmanahara*.



Phytochemical constituent	Action
Cuminin	Estrogen
Flavon(ol)-o-glycoside & Quercetin 3-O-caffeoylglucoside, kaempferol 3-O-& isorhammetin-glycosides, carvone, petroselinic acid, limonene, carvacrol anethole, estragol	It will cause uterine contractions, miscarriages or premature labor.

CONCLUSION

In overall study subjects of 20, menstruation was induced within 15 days (85%) in 17 patients. The compiled results of the study outcomes suggest that the drugs are having good action in the induction of menstruation in *Vata kapha avarana artava*, *Vata vridhi* and *Dhatu kshaya* conditions. The drugs by the virtue of its properties like *Katu rasa*, *Ushna virya*, *Deepana*, *Pachana*, *Pitta vardhaka*, *Shonitha sanghatam*

bhinathi, *Marga vivarana*, *Balya*, *Garbhashaya shodhaka*, *Snigdha*, *Teekshna*, would possibly have brought *Kapha vata hara*, *Srothoshodhana*, *Paka kara*, *Sravana*, *Vata anulomana*, *Garbhashaya shodhaka* with further *Artava nishkramana kriya* thereby inducing menstruation.

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