

Role of Krishna Tila Kwatha and Uttarbasti of Guduchyadi in the management of Artavakshaya

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Abstract

The menstrual disorders have become a very common but challenging problem. They may be due to the structural or functional disturbances and these disorders are mostly associated with the complaint of sterility, obesity etc.

The physician or modern medicine prescribes the drugs according to the condition of the disease. The treatment and investigation are the same for the primary and secondary amenorrhea i.e. hormonal and symptomatic treatment. In physiological condition in absence of any complications of the disease, they do not prescribe any drugs.

In Ayurvedic literature, numbers of formulations are available for Artavakshaya. While describing the Artava Dushti Chikitsa, Acharya Sushruta has clearly mentioned the Uttarbasti therapy as the prime treatment. In Yoga Ratnakar Yonivyapada Chikitsa, Krishna Tila Kwatha is mentioned for the treatment of Artavakshaya. This brings out the importance of the role of Krishna Tila Kwatha and Guduchyadi Taila Uttarbasti as per mentioned in Charaka Samhita Chikitsa Sthana 30 in the management of Artavakshaya. In this present clinical study, total numbers of 33 patients of Artavakshaya Roga from OPD & IPD of I.P.G.T. & R.A., Jamnagar were registered and divided in two groups randomly. In Group A patients were treated with Krishna Tila Kwatha and in Group B patients were treated with Uttarbasti of Guduchyadi. The Krishna Tila Kwatha in 10 gm b.i.d. dose, in the form of Kwatha (liquid) with Prakesha of Guda (Jaggery), for duration of two months were advised and The Uttarbasti of Guduchyadi Taila in 5 cc after completion of the menses for 3 consecutive days for 2 cycles were advised and the effect on the signs and symptoms were assessed before and after treatment noted and also assessed by a specially prepared proforma. It was found that Uttarbasti of Guduchyadi Taila treated patients show better result in the disease Artavakshaya.

Keywords: artavakshaya, krishna tila kwatha, uttarbasti, guduchyadi taila

Introduction

God has gifted woman with rare & unique phenomenon of giving rise to offspring. To effectively fulfill the above aim, nature has conferred special anatomical and physiological characteristics in the woman which are collectively referred to as "स्त्रीकराभावाः". One among them is the concept of रजःप्रवृत्ति i.e. आर्तव. As human life is constantly influenced by the rhythmic phenomenon operating in this universe, the female menstrual cycle which involves dramatic monthly hormonal changes affecting a woman's emotional and physical state is the broad extension of the well known लोक पुरुष साम्य सिद्धांत. The menstrual cycle which involves the shedding of endometrium which was prepared in the anticipation of providing a bed for the fertilized gamete, when fails, result into the manifestation of मासानुमासिक रजःप्रवृत्ति means आर्तव प्रवृत्ति.

In the contextual references of Ayurveda the Artava has two meanings बहिर्पुष्प (रजः - menstrual blood) and अतःपुष्प स्त्रीबीज - ovum) both are equally important to Ayurveda. Acharya Charaka speaks of 'शुद्ध शोणित' in the context of 'गर्भावक्रान्ति' which is to be understood to comprise both of them. It is comparatively easy and safer to examine the Bahirpushpa as then the Antahpushpa. The reasons being that Bahirpushpa can be seen by the naked eye (प्रत्यक्ष प्रमाण), the efficacy of drugs acting can be understood, and hence the significance of the 'शुद्ध रज लक्षण' explained by the Acharyas. One can also go to the extent of saying, that by the examination of बहिर्पुष्प, the

quality, status of अतःपुष्प can be assessed anticipated. The 'अनुमान प्रमाण' is the method for the above examination.

Here, the importance of the S&F is brought about by Acharya Charaka - एवं योनिषु शुद्धासु गर्भं विन्दति योषितः. in the above context the 'S&Fyi[n]' includes all the three Avartas along with their physiological activities like आर्तव प्रवृत्ति.

About the quantity of Artava, Acharya Charaka said - नैवाति बहु नाति अल्पम्.

When the "Artava" is reduced from its normal pramana it is called Artava Kshaya - क्षीणार्तवानाम् आर्तवस्य स्वप्रमाणं हानि.

The reasons why Artavakshaya has been Chosen -

- 1) Clinical problem, which is very extensive, no. of patients available.
- 2) Very important among the causes of infertility.
- 3) To fulfill the aim - अपत्यानां मूलं नार्यः परं नृणाम् [1]

One of the distinct physiological phenomenon in a woman is that of रजः प्रवृत्ति and a pathology resulting there of when the disease occurs - क्षीणाः जहति स्वं लिङ्गं i.e. when body elements become diminished, there is hypo-function evident. To see this principle applied in the present study.

- 4) ज्ञानार्थं यानि चोक्तानि व्याधिलिङ्गानी ।।।।। [2].
Symptoms of a disease may also constitute a disease. Artavakshaya has been described here as a disease form and not as a symptom.
- 5) Artavakshaya is found to be scattered form all over the Ayurvedic classics.

The secretion of gonadotrophins by the anterior pituitary is in turn controlled by a hypothalamic regulatory peptide factor called Gonadotropin Releasing Hormone – GnRh or LHRH. Ovarian hormones also control the production of gonadotropins by the negative feedback mechanism. The production of gonadotropins by the anterior Pituitary is in a cyclical fashion, and the centre for rhythm control lies in the hypothalamus, as shown in figure.

Gonadotropins

They are produced by the anterior lobe of the pituitary.

- i) Follicle Stimulating Hormone (FSH)
- ii) Luteinizing Hormone (LH)
- iii) Prolactin

i) Follicle Stimulating Hormone (FSH)

Under the influence of this hormone, during each menstrual cycle, one of the primordial follicle is converted into graffian follicle.

ii) Luteinizing Hormone (LH)

It acts on the mature graffian follicle and leads to shedding of the ovum.

iii) Prolactin (PRL)

It is responsible for the maintenance of corpus luteum. But its main action is on the active breasts where it maintains lactation.

Ovarian steroidogenesis

Mainly two hormones are secreted from the ovaries which are responsible for menstruation. These are (i) Oestrogen (ii) Progesterone.

i) Oestrogen

The predominant sites of production are granulosa cells of the follicle.

Oestrogen causes proliferation of endometrial glands and growth and compaction of the stroma. It restores the endometrium including its spiral arteries after menstruation, but does not induce the gland to secrete. An endometrium suddenly deprived of an oestrogen influence breaks down and bleeds.

ii) Progesterone

The progesterone is secreted from the luteinised theca granulosa cells of the corpus luteum.

Progesterone increases the thickness of the endometrium by enlarging the glands and by rendering the stroma oedematous. It promotes endometrial enzymatic activity induces the glands, already proliferated by oestrogen to secrete and brings about the decidual reaction in the stroma.

Artava Chakra

Artava Chakra Kala (Interval between the two menstrual cycle)

Artava Chakra is divided into three Kala.

- 1) Artava Srava Kala
- 2) Ritu Kala
- 3) Rituvyatita Kala

As per modern science whole menstrual cycle is mainly divided into 3 phases.

- i) Menstrual bleeding phase
- ii) Proliferative phase
- iii) Secretary phase

As per our science, the duration of Artava Chakra is one month (Chandramasa - 28 days).

As per modern science, 28 ± 7 days have been accepted.

1. Artava Srava Kala

- a) Different opinions regarding the duration of the bleeding time or the Sravakala.

Harita	-	7 Days
Charaka	-	5 Nights
Vagbhatta	-	3 Nights
Bhavamishra	-	3 Days

As per modern science – 4 to 5 days is considered as a bleeding time [7].

- b) Process of Artava Utpatti and Srava

In Ayurvedic texts, references about process of Artava Utpatti directly and indirectly which are drawn from scattered references.

रसादेव स्त्रिया रक्तं रजः संज्ञं प्रवर्तते [8].

तथा रक्तमेव च स्त्रीणां मासे मासे गर्भकोष्ठमनुप्राप्य त्र्यहं प्रवर्तमानमार्तवमित्याहुः [9]

मासि मासि रजः स्त्रीणां रसजं स्रवति त्र्यहम्. [10]

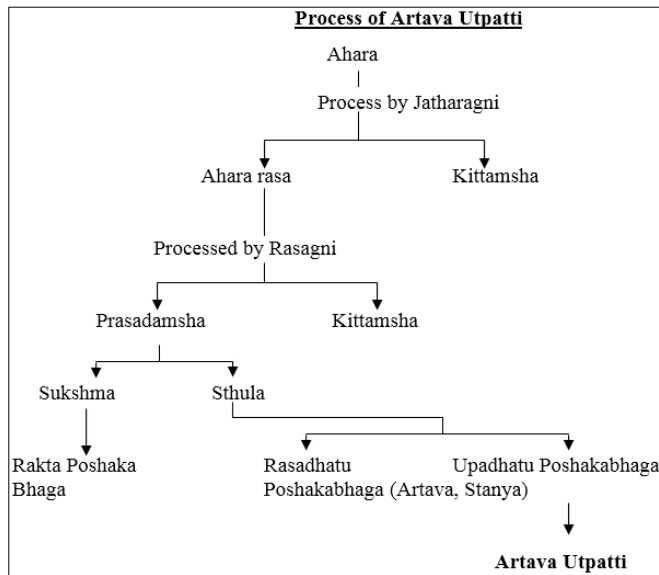
From Rasa (Dhatu) the Rakta named as Artava is formed. Rakta reaching uterus and coming out from the genital tract for three days in every month is called Artava.

Different opinions regarding the formation of Artava

- Formed from Rasa – Sushruta, Vagbhatta-II Dalhana Chakrapani,
- Formed from Rakta – Vagbhatta-I
- Actually both these descriptions are identical because Rakta either Dhaturupa or Artavarupa is always derived from Rasa, thus it appears that Sushruta etc. have mentioned the earlier stage of Artava formation while Vagbhatta-I the later stage.
- Chakrapani clarified that during the process of formation the Artava is Saumya due to influence of Rasa, while at the time of its exertion due to specific changes it assumes Agneya character. This alteration is brought due to change in character caused by Doshas in the same way as solid substance are changed into fume due to action of fire, cane juice a vitiating factor of Kapha is changed after fermentation into wine which vitiates all the three Doshas.
- Arundatta opines that this artava is formed from ahara - rasa and not from Rasa Dhatu [11].
- Acharya Sharangadhara and Bhava Prakasha mentioned Artava as by product (Updhatu) of Rakta [12].
- Acharya Bhava Mishra while explaining the formation of dhatu writes that women possess one extra Dhatu, just as presence of one extra Ashaya (Garbhashaya), thus Artava as seventh and Shukra as eighth Dhatu [13].
- Chakrapani has clarified the process of Artava as Updhatu with help of Charaka opinion.
- According to Acharya Charaka from the various kinds of food ingested there are formed assumable nutrient fluid

called the Prasada Bhaga and excretory mater called the Mala Bhaga ^[14].

- Just after the completion of Jatharagni and Bhutagnivyapar, Ahara converts into Ahara rasa upon which Rasadhatvagni acts and produces two main parts named (1) Sthulabhaga (2) Sukshmbhaga out of them Sthulabhaga is used as a upadhatu i.e. Artava ^[15].
- Acharya Sushruta while describing the formation of Dhatus accepts formation of Artava as Dhaturupa along with Shukra in female ^[16].
- Rasa is successively transformed into each of the six remaining fundamental tissues of the body in continuation in shape of each Dhātu for the period of 3015 Kala. Thus the Rasa is converted into Shukra or Artava in woman in course of a month ^[17].



Artava Ekatrikarana Evam Visarjana

मासेनोपचितं काले धमनीम्यां तदार्तवम्.
इषत् कृष्णं विगन्धश्च वायुर्योनिमुखं नयेत्.^[18]

The blood collected for whole month by both (uterine vessels and their endometrial capillaries) assuming Ishatkrishna Varna and specific Gandha is brought downward to Yonimukha for excretion.

रजोवहा सिरा यस्मिन् रजः प्रविसृजन्त्यतः.
पुष्पभूतं हि तदैवान्मासि मासि प्रवर्तते.^[19]

Acharya Kashyapa believes that, the blood in adult females during their reproductive period, enters into Garbhakoshtha every month. This is done by the Rajovaha Shiras present in the Garbhashaya which are the carrier of the Artava formed by the action of Artavagni upon the Rakta. These shiras fill the uterus every month and after the completion of one month the Artava is expelled out by them.

We can correlate this Kala with menstrual phase which is occurs for 4-5 days after day 28 of the cycle due to shedding away of endometrial bits and bleeding from endometrial bed bleeding occurs as -

- a. Capillary bleeding with or without of sub-epithelial haematoma

- b. Venous haemorrhage
- c. Diapediasis.

Menstrual phase is caused by withdrawal of oestrogen and progesterone support of endometrium.

2. Ritu Kala (Proliferative phase - b)jigmkil)

The Ritu Kala is known as Bijagam kala so we can take it as most fertile period and during this period the ovulation occurs.

- Different Acharyas have different views about the Ritu Kala.
- i) According to Sushruta and Vagbhatta, Ritukala is twelve day of menstruation.
- ii) According to Bhava Prakasha it is 16 nights, starting from the 1st day of the menstrual cycle.

In Bha. Pra. Purvakhanda Garbhaprakarana described as different caste wise distribution ^[20].

Brahmana	-	12 days
Kshatriya	-	10 days
Vaishya	-	8 days
Shudra	-	6 days

- iii) Acharya Kashyapa also described Ritukala is different for different caste ^[21].

Brahman	-	12 days
Kshatriya	-	11 days
Vaishya	-	10 days
Shudra	-	9 days

- iv) If the reproductive system is healthy it may be entire month, known as Ritukala.

शुध्य योनिगर्भाशयात्वाया मासमपि तु केचित्.^[22]

- Ritukala is second phase of Artava Chakra. According to different Acharyas, sribija or ovum is deposited during this period. This phase is not directly related to Artavakshaya but indirectly it is closely related to this subject. Secretion of hormones in this phase is responsible for regular and normal Artava Chakra or Artava Pravrtti.

- Ritukala denotes proliferative phase including ovulation. During this phase oestrogen is produced and causes hypertrophy of the cervix and increase the cervical gland secretion. The secretion is more watery alkaline with less protein and mass electrolytes. These favour penetration of the sperm. Immediately after the cessation of menses, the endometrium is 1 to 2 mm thick and consists mainly of the basal layer and a minimal amount of spongiosum. Throughout the cycle, the histology of the stratum basal remains relatively constant, constituting of inactive stroma and small, straight glands. All the changes occur in the surface layer or stratum functional. The scanty surface epithelium and the collapsed, narrow crypts or glands are lined by cuboidal cells. The stroma is dense and compact.

During the proliferative phase, under the influence of oestrogen, there is marked proliferation of epithelial and stromal cells. Estrogen receptor of content is greatest during the midproliferative phase, whereas only about one fourth of the stromal and glandular cells stain positively for progesterone receptors. Mitotic figures are abundant. Initially, the stroma becomes dense. Glycogenesis is a critical activity in the proliferative phase, and glycogen storage begins on approximately day 10. The glands subsequently

becomes increasingly long and tortuous. Maximal pseudostratification of glandular cells occurs just before ovulation. As glycogen storage increase in the glandular epithelium, migration of the nuclear toward the surface begins. At the time, columnar cells compose the surface epithelium. At midcycle the endometrial thickness is characteristic and average 10-12 mm in maximum diameter. The thickness increases further in the luteal phase largely due to Oedema and glandular differentiation as described below however this thickness is characteristic in appearance.

During the late proliferative and early secretory phases, the concentration of progesterone receptors rises, especially in the glandular cells, and that of oestrogen receptors begins to decrease. The rise of progesterone receptor context sensitizes the endometrium to the action of the soon to be secreted progesterone.

3. Rituvyatikala (Secretary Phase)

Except the closure or constriction of yoni, any other physical or psychological changes are not described for this stage.

- As Acharya Sushruta quoted in Sharirsthana - A flower of lotus closed after sunset, similarly after Ritukala the Yonimukha of woman gets constricted and does not accept Shukra or permits the entry of bija (sperm) into uterus [23].
- Rituvyatikala means the Kala which is coming after Ritukala. During this secretory phase due to influence of progesterone hormone cervical mucus becomes more thick and viscid preventing sperm penetration.

These points towards the hormonal phenomena. This results of combined activity of oestrogen and progesterone. Within 48 to 72 hours, after ovulation mitotic activity ceases and glycogen rich subnuclear vacuoles appears in the cells of the glands. The subnuclear vacuoles are the first indication of progestational effect, without the synergistic effect of oestrogen and progesterone glycogen does not accumulate under the influence of continued progesterone stimulation the vacuoles begin to ascend from their subnuclear location towards the gland lumina and becomes supranuclear the glycogen day 16 and 20, reaching 15 times the level during the proliferative phase.

The stroma becomes edematous and more vascular, stromal cells and their nuclei enlarge providing a pseudodecidual reaction. Endometrial height reaches to 5 to 6 mm. Blood vessels and glandular tortuosity increases to a maximum, as doe's secretory activity.

In the middle of the secretory phase (6 to 7 days after ovulation) the endometrium is best prepared for implantation, glycogenolysis is maximal at this time. Under the influence of phosphorylase, glycogen is broken down to glucose to provide for the nutritional needs of the free floating blastocyst. Phosphorylase activity is stimulated by progesterone and reaches twice, the level seen in proliferative phase. However recent data by milecoidsky and cavorkers, suggest that the active form of this enzyme is not increased in the luteal phase and that the major enzymatic change during the luteal phase is the almost 20 fold increase. Over the activity of glycogen synthetase phosphatase. Estrogen and progesterone receptor content falls during the mid and late secretory phase and virtually disappears from the glandular cells, whereas some progesterone receptors can still we found

in the stroma and myometrium.

At the end of the secretory phase, the maximal endometrial response to ovarian sex steroid has occurred. The premenstrual exhausted glands begin to collapse and fragment. Marked infiltration with polymorph a nuclear and mononuclear leucocytes occurs. Autolysis begins.

In this way it is described in Ayurveda as a Artavachakra and in modern text as a menstrual cycle, it seems that there is not much difference. The Rituchakra is started to be under the influence of Vata, Pitta and Kapha doshas. The progesterone and oestrogen may be produced due to Pitta and Vata dosha. Since all the locomotor system reflex action and to carry stimulus from one organ to another is under the control of Vata dosha. i.e. Hypothalamus-pituitary-ovario-uterine reflex. This reflex is working through all the three stages of the menstrual cycle, naturally the Vata dosha is coming into play through all the three phases of the menstrual cycle working its Karma i.e. stimulating action "Pravartaka Chestanam".

Disease Review

The disease review deals with general view of Artvakshaya starting with Artav Dushti, further Nidana Panchaka, Chikitsa etc. of this disease from Ayurvedic concept is described. In the modern concept of disease review detail definition, description of causative factors, types, related investigation and management of scanty and infrequent menstruation is explained. Here also described details of Uttarbasti.

Drug Review

In such recipes, we have selected Krishna Tila Kwatha from the reference Yoga Ratnakara [24].

In second group, Uttarbasti of Guduchyadi has been selected from the reference [25].

Compound Drug Study

Drug review with highlight on Compound and Individual drugs has been described.

(I) Krishna Tila Kwatha

Ref.: सगुड श्यामतिलानां क्वाथः प्रातः सुशीलितो नार्यां.

सुमं सहसा गतमपि सुचिरं निरातङ्गम्. [26]

Ingredients

- 1) Krishna Tila Yavakuta 1 part
- 2) Water 4 part

Procedure

Patients are advised to prepare Kwatha by चतुर्थावशेष method mentioned by Acharya Sharangadhara.

(II) Guduchyati Taila:

Ref. गुडुचीमालतीरास्नाबलामधुकचित्रकैः

निदिग्धकादेवदारुयूथिकाभिश्च कार्षिकैः.

तैलप्रस्थं गवां मूत्रे क्षीरे च द्विगुणे पचेत्. [27]

Ingredients

Prepare medicated oil by taking

Table 1

S. No.	Drugs	Qty.
01	Tila Taila	64 part
02	Cow's milk - Godugdha	128 part
03	Cow's urine - Gomutra	128 part
Kalka Dravya		
01	Guduchi	1 part
02	Malati	1 part
03	Rasna	1 part
04	Bala	1 part
05	Madhuka	1 part
06	Chitraka	1 part
07	Kantakari	1 part
08	Devadaru	1 part
09	Yuthika	1 part

Preparation of Guduchyadi Taila

Guduchyati Taila is prepared by Sneha Paka Vidhi as per mentioned in classical text.

Individual Drug Study

The ingredient drugs of the chosen formulation is expanded in this section with respect to the botanical source, vernacular names, *Rasa Panchaka*, officinal part, chemical constituents and related established pharmacological actions.

Clinical Study

In the clinical study, total numbers of 33 patients of Artavakshaya Roga from OPD & IPD of Hospital, I.P.G.T. & R.A., Jamnagar were registered. Out of which 30 patients completed the course of the treatment with follow up, whereas 3 patients left the treatment Against Medical Advice.

Aims and Objectives

- To evaluate the efficacy of selected drugs on Artavakshaya.
- To study the effect of "Guduchyadi Taila Uttarbasti on Artavakshaya".
- To find out effectiveness of oral medicine on Artavakshaya.
- To compare the efficacy of both formulations in Artavakshaya.
- To find out the other effect of the selected drugs if any.

Materials and Methods

- For the clinical study, the selection of the patients was made from those attending the O.P.D. and I.P.D., department of Kaumarbhritya, I.P.G.T. & R.A. Jamnagar.
- A detailed history was taken according to the proforma specially prepared for this purpose.

Criteria for Selection of Patient

- Patients showing clinical symptomatology of Artavakshaya as described in Ayurvedic texts were selected for the study.
- The patients without any infectious disease, diabetes, anaemia, structural defects in the female genital tract were selected.
- Only the married patients were included in Group-B for administration of Uttarbasti.

Criteria for Diagnosis

- If interval between two cycle exceed more than 35 days and amount is also less.
- If the duration of menstrual flow is 2 days or less.
- The quantity of menses is very less.
- Painful menstruation along with these symptoms.

Investigation

- Haematological investigation specially Hb, TC, DC, ESR, PCV.
- Urine specially microscopic and routine examination.
- Stool specially microscopic and routine examination.

Management of the patients

Registered patients were randomly divided into two groups, viz.

Group A - Krishna Tila Kwatha

Dose - 10 gm. / per day **Duration** - 2 month

Route - oral **Prakshepa** - Guda (Jaggery)

Group B - Guduchyadi Taila Uttarbasti

Dose - 5 cc

Route - Intrauterine

Duration - After completion of the menses for 3 consecutive days for 2 cycles.

Duration of both treatment - 2 months.

Follow up - patients were observed for one month after completion of treatment.

Criteria of Assessment

Subjective Criteria

- The effect was assessed on improvement in signs and symptoms of disease on patients i.e. cardinal symptoms like quantity of menstrual flow duration of menstrual cycle, interval between two cycles (inter menstrual period) and pain during menses.

Objective Criteria

- Pathological changes in routine blood, urine, stool and vaginal smear investigations.
- A detailed proforma was prepared with a special scoring pattern for signs and symptoms to assess the improvement in disease condition.

Observations

In this present clinical study, a total number of 22 patients were registered in Group-A, out of which 20 patients completed the whole treatment and follow-up, where as 2 patients left against medical advice. Out of 11 patients registered in Group-B, 10 patients completed the whole treatment, in this series -

- The present study was done on 30 patients. 33 patients were registered but 30 patients completed the therapy. 3 patients left the therapy before administration of drug.
- It was found that Artavakshaya is not always a familiar trait. Because 90% patients were having negative family history of Artavakshaya.
- Most of the patients i.e. 40% of patients were of 31 to 35 years age group. 93.33% patients were Hindus. 96.67% patients were housewives. 40% patients were educated

upto H.S.C. 63.33% patients were from middle class, 60% patients were from Urban area.

- Most of the patients i.e. 96.67% patients were undergo physical exertion. 43.33% patients have depressed psychological status, 43.33% patients have disturbed and sound sleep respectively, 83.33% patients were habituated to tea.
- Majority of the patients i.e. 93.33% were married, 71.43% patients were satisfied with her sex life, 67.86% patients were multiparous, 100% patients were having proper secondary sex character, 42.86% were not using any contraceptive.
- Majority of the patients i.e. 56.67% had Vata Pitta Prakriti, 70% patients were having Madhyama Sara, 70% patients were having Madhyama Samhanana, 66.67% patients were having Madhyama Pramana, 86.67% patients were having Mishra Rasa Satmya, 83.33% patients were having Madhyama Satva, 76.67% patients were having Madhyama Vyayam Shakti and Aharashakti, 100% patients were from Jangala Desha.
- Most of the patients i.e. 93.33% were vegetarians, 83.33% patients were having Vishmagni, 76.67% were having Katu Rasa Pradhana Ahara, 56.67% patients were having Laghu guna, Pradhana Ahara.
- Most of the patients i.e. 67.86% were not having white discharge, 78.57% were having parous cervical os, 92.86% were not having erosion on cervix at P/S examination.
- Majority of the patients i.e. 64.28% were having AVAF uterus, 89.28% patients were having normal size of uterus, all patients were having mobile uterus and 92.86% patients were not feeling tenderness at P/V examination.
- 60% patients attained their menarche age at 14 yrs. 80% patients were having inter menstrual period between 21 to 35 days. 66.67% patients were having regular menstrual cycle, 63.33% were having no pain during menstruation, 43.33% were using only 2 pad / cycle.
- Most of the patients i.e. 50% were having chronicity of 1 to 4 years.
- All patients were having Aratavavaha Srotodushti, 50% patients were having Annavaaha Srotodushti.
- Maximum no. of patients i.e. 70% were having Vibandha and Katishula along with Artavakshaya.
- Maximum relief was found in general symptoms in group A i.e. 100% in Anidra and Alasya and 80% relief was found in Adhmana, Katishula, Agnimandya and Bhrama.
- Maximum relief was found in general symptoms in group B i.e. 100% in Adhmana and 83.33% in Vibandha.
- Local symptoms wise distribution shows that group A therapy provided maximum relief in Kandu (100%) and Aruna, Krishna Srava (86.67%), while in Group B therapy, provided maximum relief in Neela, Pitta Srava (100%) and Aruna, Krishna Srava (83.33%).
- The effect of Krishna Tila Kwatha (Group A) on cardinal symptoms on 20 patients showed that maximum relief was achieved in Alpata (56.41% duration of menstrual days, 73.91% - pads used), Yathochitakala Adashana (Inter menstrual cycle 29.63%) and Yoni vedana (painful menses - 66.67%).
- The effect of Uttarbasti of Guduchyadi Taila (group B) on cardinal symptoms on 10 patients showed that maximum relief was achieved in Alpata (73.91% duration of

menstrual days, 75% pad used), Yathochita Kala Adarshana (Inter menstrual cycle 31.58%) and Yonivedana (Painful menses 100%).

Results

- Overall effect of therapy in Krishna Tila Kwatha, 4 patients (20%) attained complete cure. There was a markedly improvement in the status of 5 patient (25%), 10 patients (50%) attained improvement and 1 patients (5%) not attained improvement.
- Overall effect of therapy in Group B, (Uttarbasti of Guduchyadi Taila) 3 patients (30%) attained complete cure. There was markedly improvement in the status of 4 patients (40%) and 3 patients (30%) attained improvement.

Discussion

The effect of the therapy on general symptoms

- In the present study, initially an attempt has been made to divide the patients with general, local and cardinal symptoms. Next attempt has been made to represent the general symptoms and relief there upon.
- In both the groups Adhmana, Vibandha, Katishula, Agnimandya, Aruchi, Anidra Alasya and Bhrama were recorded in most of the patients.
- In the disease (Artavakshaya) Apanavayu is mainly deranged. So its normal functions except Artava Pravriti, may also be improper and as Vibandha might have been seen in many patients. Whereas Agnimandya may be developed by Pittakshaya (lack of Pitta dosha) & Kapha vriddhi(vitiation of Kapha) and subsequent Amotpatti may lead to Aruchi also. The patients were also feeling some depression as we already described in previous chapter that Manasika lakshanas were found associated with the Anidra, Bhrama etc.
- It can be concluded from the above points that as Artavakshaya is a Vata Kapha predominant Vyadhi, the general Symptoms of Vata and Kapha Vriddhi and Pitta Kshaya may be found along with the cardinal symptoms.
- 100% relief was found in Anidra and Alasya. More than 70% relief was found in Adhmana, Agnimandya, Bhrama Aruchi and Katishula in group A which is oral group of Krishna Tila Kwatha.
- 100% relief was found in Adhmana and 83.33% relief was found in Vibandha in group B which is Uttarbasti group.

The effect of therapy on local symptoms:

- Next attempt has been made to represent the dosha wise local symptoms and the relief in them after the therapy.
- As mentioned in earlier chapter, in both the groups, due to the vitiated Apanavayu, Toda, Bhedadi Vedana in Adhodara and Yoni Pradesha and Aruna Krishna Srava was observed in maximum no. of patients in both groups. Due to Pitta Doha Dahadi Yonivedana and Neela, Pitta Srava observed in group A. Due to Kapha dosha Shukla Srava observed in Group B.
- In group A, the maximum relief was observed over 65% in only 3 symptoms and maximum relief in Toda, Bhedadi Vedana (83.33%) and Aruna Krishna Srava (86.67%) while 100% relief was seen in Kandu.

- In group B due to basti therapy the relief over 65% in 4 local symptoms was seen. Out of them maximum relief was found in Neela, Pitta Srava (100%), Aruna, Krishna Srava (83.33%) and 66.67% in Todadi Vedana and Shukla Srava respectively.
- From the above points it may be concluded that the Uttarbasti is a local therapy that's why marked relief was seen in local symptoms in comparison to the group A.
- However the Vata dosha symptoms were found more in both the general and local symptoms in both the groups. In Vatika Symptoms relief was also significant in Group B.

The total effect of therapy on cardinal symptoms

Alpata (Duration of menstrual cycle)

Where the duration of menstrual period is concerned 56.41% increment was seen in group A, and 73.91% increment was seen in group B. These results shows that both were effective increasing the duration of menstrual period but group B (Uttarbasti of Guduchyadi Taila) was comparatively more effective than the group A.

Yathochita Kala Adarshanam (Inter menstrual cycle)

Where the interval between two menstrual cycles is concerned 29.63% reduction was seen in group A and 31.58% reduction was seen in group B. These results shows that group B is more effective in reduction of inter menstrual time.

But statistically result was significant in group A and insignificant in group B.

Here, keeping above result in view the question may arise, why result is not significant? As a solution, this problem may be stated that the prolonged chronicity of Artavakshaya, prolonged inter menstrual time as well as very less quantity of the menstrual discharge before starting the drug were the main causative factors accountable for the insignificant result.

Yoni Vedana

The pain during the menses was subsided in 66.67% in group A and 100% in group B, proving therapy Uttarbasti was comparatively more effective on Yonivedana.

But statistically in group A result was significant while in group B it was insignificant.

Alpata (amount of menstrual blood by using pad and its weight)

Where the amount of menstrual blood is concerned, 73.91% increment of no. of pad in group A and 75% increment of no. of pad in group B. While 48.44% increment of weight of pad in group A and 38.40% increment of weight of pad in group B.

These results show that no. of pads was increased in group A, but weight of pad was increased in group B.

Here, one thing is noticed, in the criteria that the amount of menstrual blood will be assessed by using vaginal pads. But we cannot assess the menstrual blood by vaginal pads completely. Because some patient may change the pad earlier than its capacity and some changes too late than its capacity. In this way, Alpata can be judged on the basis of weight of the pad where as the no. of pads used is arbitrary.

Overall effect

- The consideration of overall effect of the therapy on 30 patients of Artavakshaya in both the groups has been made. 20% patients in the group A and 30% patients in group B were completely cured. 25% patients of Group A and 40% patients of group B were markedly improved. 50% patients of group A and 30% patients of group B were improved. 5% of the patients in group A were got no relief and none of the patients in group B were got any relief.

Probable mode of action of the drugs

- The conducted study would not be complete without knowing the pharmacodynamics and pharmacokinetics of the constituent drugs of the formulations that have been used.
- According to our Acharyas therapeutic efficacy of the drugs depends upon its properties namely Rasa, Guna, Virya, Vipaka or its Prabhava. The activity of the drug may be produced by either one of these or their combination.
- The mode of drug action is a very complicated process involving interaction of the various factors mentioned above. Hence, the drug is administered as a whole to obtain complete healing.

Krishna Tila Kwatha

- Guda is given as adjuvant with Krishna Tila Kwatha and thereby enhances the therapeutic efficacy of the drug.

Krishna Tila Kwatha

Madhura Rasa, Guru, Snigdha Guna, Ushna Virya and Madhura Vipaka. It has Snehana, Vedanasthapana, Sandhaniya and Artavajanana properties.

Guda

Madhura rasa, Natishita, Snigdha guna, Ushna Virya and Madhura Vipaka, Vatapittashamaka.

Action on Samprapti Ghataka

Dosha

- **Krishna Tila** - Krishna Tila performs Vatashamaka Karma due to its Madhura rasa, Ushna Virya, Guru, Snigdha Guna and Madhura Vipaka. The presence of fixed oil also imparts Vatashamaka property to it.
- **Guda** - The above mentioned properties of Guda enable it to perform function of Vatashamana. As per shodhal Nighantu, the use of Guda along with Tila has been prescribed for Vata Roga.

Dushya

- **Krishna Tila** - Due to its Madhura rasa and Madhura Vipaka it increases Rasa Dhatu. As Artava is an Upadhatu of Rasa, it will also increase with the administration of Krishna Tila.
- **Guda** - As guda also has same Rasa and Vipaka it will have same action as Krishna Tila.

Srotasa

- **Krishna Tila** - In Artavakshaya, sanga type of Artavavaha srotodushti occurs due to Dosha Dushya

Sammurchhana. Due to its Ushna Virya and Vatakapha Doshagnata it removes the Srotorodha.

- **Guda** - It is also Ushna Virya, so same type of action will be carried out by Guda.
- **Agni** - By Ushna Virya it directly effects on Sthanika Artavagni which directly increase the upadhatu Artava. In this way, Krishna Tila Kwatha with Guda acts as a 'Artavajanana'.

Guduchyadi Taila

- Guduchyadi Taila is mentioned in Charaka Samhita²⁸ for the treatment of Vataja Yoniroga.
- Guduchyadi Taila has Vatakaphashamak properties by virtue of its Madhura, Tikta, Katu, Kashaya Rasas & related properties. It is therefore very suitable for the treatment of Artavakshaya which is due to Vata & Kapha dosha.

Taila

- Tila Taila is one of the main ingredients in Guduchyadi Taila.
- Charaka has mentioned that, Taila acts as Vatakaphashamana. Guduchyadi Taila is prepared mainly by Vata Kaphaghna drugs. In short, Taila has mainly Vatakaphaghna properties and performs Shodhana of Dhatu.

Kshira

- Kshira is the other main ingredient of 'Guduchyadi Taila'. Kshira is Vata Pitta Shamana, Jivaniya and Rasayana. Thus, Guduchyadi Taila has Tridoshaghna properties.

Gomutra

- Gomutra is also main ingredient of Guduchyadi Taila. It is Kaphaghna due to its Katu, Tikta, Kashaya Rasa. It is also having Tikshna, Ushna, Kshara, Laghu Guna. So it acts as a Garbhashaya Shodhaka by Kshalana Karma.
- Due to above mentioned ingredients, Guduchyadi taila has following properties:

It contains mainly Madhura, Katu, Tikta Rasa, Laghu, Snigdha, Picchila Guna, both Katu and Madhura Vipaka and Ushna and Shita Virya. It has vedanashatpana, Shothahara properties also.

Action of Uttarbasti using Guduchyadi Taila

Ayurvedic View

- Sneha (Medicated oil) contains Sukshma Guna as mentioned by Acharya Sushruta in Sutrasthana.²⁹ So this property of the Sneha along with its constituent drugs enables it to reach deep in to the Artavavaha Srotas and perform function of Srotoshodhana. At cellular level this Sneha begins action on Dosha, Dushya and Agni.³⁰ Another Vital function of Sneha is to perform Snehana Karma (Lubrication) of Garbhashaya. In this way Samprapti Vighatana of Artavakshaya is brought about.

Modern View

- When Guduchyadi Taila is administered locally in uterine cavity, it is primarily absorbed by the endometrium. Here in it performs functions such as lubrication, ovarian stimulation, hyperaemia, as well as disinfections.

Lubrication

- It has been recognized as a universal lubricant. On administration it tends to soften and loosen the uterine muscles and membranes. Thus making them more motile as an effect it helps to break down the endometrial layer and facilitate menstruation.

Ovarian stimulation

- During the process of Uttarbasti, some amount of the Guduchyadi Taila enters the ovaries through the uterine wall. This in-turn stimulates the ovaries to release progesterone and oestrogen. On account of local irritation. These two hormones thus cause the onset of menstruation.

Hyperamia

- The medicated oil reaching uterine cavity causes irritation of its walls. This leads to the condition of hyperamia which causes thickening of the endometrial layer.

Disinfection

- The test drug contains many antiseptic agents therefore it causes disinfection in conditions of endometritis etc.

Conclusion

- Acharya The word 'Artava' has two meaning i.e. Antahpushpa (ovum) and Bahirpushpa (menstrual blood). But here it can be inferred as Bahirpushpa (menstrual blood only).
- Though, 'Artavakshaya' is described as a symptom in classics, but in present study it appears like a disease by Nidana, Lakshana and Chikitsa base.
- The main principle of management of Artavakshaya are Brimhana, Agnivardhaka and Vatanulomaka treatment.
- The present study was done on 30 patients. 33 patients were registered but 30 patients completed the therapy. 3 patients left the therapy before administration of drug.
- It was found that Artavakshaya is not always a familiar trait. Because 90% patients were having negative family history of Artavakshaya.
- The effect of Krishna Tila Kwatha (Group A) on cardinal symptoms on 20 patients showed that maximum relief was achieved in Alpata (56.41% duration of menstrual days, 73.91% - pads used), Yathochitakala Adashana (Inter menstrual cycle 29.63%) and Yoni Vedana (painful menses - 66.67%).
- The effect of Uttarbasti of Guduchyadi Taila (group B) on cardinal symptoms on 10 patients showed that maximum relief was achieved in Alpata (73.91% duration of menstrual days, 75% pad used), Yathochita Kala Adarshana (Inter menstrual cycle 31.58%) and Yonivedana (Painful menses 100%).
- Finally, the conclusion can be drawn that both the therapies are effective but 'Uttarbasti' therapy is more effective than the 'Kwatha' therapy.

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