



## Review Article

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### AN AYURVEDIC AND CONTEMPORARY OVERVIEW OF MENSTRUAL CYCLE

Shivani Arora<sup>1\*</sup>, M. B. Gaur<sup>2</sup>

<sup>1</sup> PG Scholar, PG Department of Kriya Sharir, Ch. Brahm Prakash Ayurved Charak Sansthan, Khera Dabar, New Delhi, India

<sup>2</sup> Professor and H.O.D., PG Department of Kriya Sharir, Ch. Brahm Prakash Ayurved Charak Sansthan, Khera Dabar, New Delhi, India

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#### \*Corresponding author

E-mail: arorashivaniyu@gmail.com

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#### ABSTRACT

*Ayurveda* stands on the framework of *tridoshas*, *sapta dhatus* and *trimalas*. Apart from *sapta dhatu*, *updhātu* also plays an essential role. *Artava*, the *updhātu* of *rasa dhatu* is responsible for conception in females. Henceforth, the healthy status of *Artava* is of prime importance when we talk about reproductive health. Any anomaly in *Artava* and its functions has an impact on menstrual regulation as well as reproduction. The menstrual cycle is the cyclical events that appear in the endometrium of uterus to form visible flow of menstrual blood every month. Menstrual cycle in *Ayurveda* is termed as *artavachakra*. The word *chakra* signifies regular onset at regular intervals, just like a wheel or cycle. It manifests a periodicity of one *chandramasa* (28 days). *Ayurvedic acharyas* has not interpreted *artavachakra* into stages, but depending upon available references in *Samhitas*, it is divided into following phases – *rajahsravakala*, *ritukala*, *rituvyatiitkala*. Abnormal menstruation is the most common and important cause of many gynecological disorders and infertility. The present paper emphasizes on the study of day, duration and events of menstrual cycle in *Ayurveda* and with that of contemporary science.

**Keywords:** *Artavachakra*, *Artava*, *Rajahsravakala*, *Ritukala*, *Rituvyatiitkala*

#### INTRODUCTION

*Dosha*, *dhatu* and *mala* all together makes *sharir*<sup>1</sup>. *Rasa dhatu* has *Artava* and *Stanya* as its *updhātu*<sup>2</sup>. The words like *Artava*, *Beeja*, *Raja*, *Rakta*, *Shonita*, *Pushpa* are used synonymously with menstrual blood and ovum or both as the meaning of which is considered as per the context referred.

Menstrual cycle is recurrent monthly discharge of blood from the female genital canal<sup>3</sup>. Menstrual cycle is counted from the day on which menstrual bleeding begins. It ensues in four phases –

1. Menstrual phase.
2. Proliferative phase.
3. Ovulatory phase.
4. Secretory phase<sup>4</sup>.

Menstrual cycle has been called in *Ayurveda* as *Artavachakra*. It is divided into following phases –

1. *Rajahsravakala*.
2. *Ritukala*.
3. *Rituvyatiitkala*<sup>5</sup>.

It is one of the most essential physiological processes which enable the formation of *Garbha*.

Alike other physiological processes, menstruation is also governed by three *doshas*. Menstrual blood becomes sterile, in case it is vitiated by three *doshas* and blood separately or jointly with two or three *doshas*. Thus; it is important to study the basic principles and physiological concept of *Artavachakra*. Hence this study is taken into consideration which has prime objective to

review menstruation in different *Ayurvedic* texts, to compare and evaluate data available on menstruation.

#### Review of literature

##### *Prathama Rajodarshankala* (Menarche) and *Rajonivrittikala* (Menopause)

The *Artavachakra* does not occur in young girls (before menarche) since their *yoni* (reproductive system) is been under developed. At the time they grow older, all the bodily systems get matured and menstruation also starts<sup>6</sup>.

The first menstruation is called menarche; this has been termed as *Pratham rajodarshankala*<sup>7</sup>.

Menopause means permanent cessation of menstruation at the end of reproductive life due to loss of ovarian follicular activity<sup>8</sup>. It has been termed as *Rajonivrittikala*.

#### Various opinions of Acharya's

**Acharya Sushruta** – *Artavachakra* commence at the age of 12 years and comes to an end at the age of 50 years<sup>9</sup>.

**Acharya Vagbhata** – same opinion as that of *Sushruta*<sup>10</sup>.

**Acharya Kashyap** – menstrual cycle starts at the age of 16. At the same time, he also said that this age of appearance of menses gets influenced by specific *Aahar* (Dietics) and *Arogya* (health)<sup>11</sup>.

**Arundatta** – age of start of menses and age of menopause can also occur before 12 years and 50 years respectively<sup>12</sup>.

All these are quite similar to the modern views, where the menarche has been considered between 10 and 16 years, the peak time being 13 years. Also, menopause ranges between 45-55 years, average being 50 years.

### Rajahsravakala (Menstrual flow)

The *rajahsravakala* or menstrual flow occurs at an interval of one month. The duration of this phase differs according to different *acharyas*. Generally, the duration is from 3 to 5 days<sup>13</sup>. Describing about the physiology of the cycle, *Acharya Sushruta* has said that the dark colored blood gets collected in the course of whole month by the *Artavvimochini dhamani* in the *garbhashaya* and gets expelled through the *yonimukha* monthly by the action of *Apana vayu*<sup>14</sup>. *Acharya Charak* stated that, the normal menstruation is that which has an interval of one month, duration of five days, is not associated with burning sensation or pain, the expelled blood is neither very scanty nor excess in amount and resembles with the colors of *Gunjaphala*, red lotus flower or of *indragopa*<sup>15</sup>. *Acharya Sushruta* further said that the *Shuddha Artava* (non-vitiated menstrual blood) is that which is of the color of rabbit's blood or of *Laksharasa* and which does not stain clothes<sup>16</sup>. Intercourse has been contraindicated during this phase of *Artavachakra* by all *acharyas*<sup>17</sup>. This phase can be compared with the menstrual phase of menstrual cycle.

### Menstrual phase

The period during which shedding and exit of uterine lining along with blood and fluid occurs is called menstrual phase. It finishes in about 4-5 days.

**Hormone** – lack of estrogen and progesterone.

### Changes in endometrium

- Endometrial vasoconstriction.
- Rupturing of blood vessels of endometrium.
- Necrosis of endometrium.
- Desquamation of superficial layers of endometrium.
- Contraction of uterus and expulsion of blood along with desquamated uterine tissue to the exterior through vagina.

During normal menstruation, total blood loss ranges from 10 to 80 ml (average 40 ml).

### Ritukala (Proliferative and ovulatory phase)

It is the stage of *Artavachakra* that comes after *Rajahsravakala*. It is called as *ritukala* because during this phase, if *garbhashaya* receives sperm there are chances of conception (just like breeding system). The logic for conception during *Ritukala* has been explained as follows – as the lotus flower closes itself after sunset, the *yoni* of women too gets constricted after *Ritukala* and does not accept *Shukra*<sup>18</sup>.

Ritukala	Opinions of Acharyas <sup>19</sup>
16 days (starts from 1 <sup>st</sup> day of menstruation).	<i>Bhavprakash, Harita, Videha.</i>
12 days (starts from 4 <sup>th</sup> day of menstruation).	<i>Charak, Sushruta, Vriddha vagbhata, Laghu vagbhata, Kashyap.</i>

This phase can be correlated with proliferative and ovulatory phase of menstrual cycle.

### Proliferative phase

Extends generally from 5<sup>th</sup> -14<sup>th</sup> day of menstruation. It represents the restoration of the epithelium from the preceding menstruation.

**Hormone** – estrogen and progesterone.

### Changes during proliferative phase

- The endometrium thickens and proliferates.
- Endometrial cells proliferate rapidly.
- Epithelium reappears on the surface of endometrium.
- Blood vessels also appear in stroma.
- There is maturation of ovum with development of ovarian follicles.

### Ovulatory phase

This arises due to sudden rise in LH secretion, secondary to rise in estrogen concentration.

**Hormone** – LH and estrogen.

### Changes

- At around day 14, ovulation occurs.
- Slight vaginal discharge of watery cervical fluid.

### Rituvyatitkala (Secretory phase)

This phase comes just after the *Ritukala* and it ends with the onset of *Rajahsravakala*. This phase has been specified as the phase when there occurs closure or constriction of the *yoni*<sup>20</sup>. Due to this closure, entry of sperm is not allowed. So, no conception in this phase. This phase can be correlated with secretory phase of menstrual cycle.

### Secretory phase

This phase continues between 15<sup>th</sup> to 28<sup>th</sup> days of menstrual cycle. It represents the preparation of the uterus for implantation of the fertilized ovum.

**Hormone** – progesterone secreted by the luteal cells of the corpus luteum.

### Changes

- Endometrial glands increase in length and diameter and become more tortuous.
- The stroma cells proliferate and enlarge.
- The spiral arteries become more coiled and dilated and the veins become filled with blood.
- Cervical secretion becomes thick, tenacious and cellular forming a viscous plug which constitutes a barrier against spermatozoa and infectious micro-organism.

## DISCUSSION

Physiological process of menstruation is governed by *doshas* viz. *Vata*, *Pitta* and *Kapha*, where each dominates in particular phase of menstruation.

### Rajahsraavakala

This phase is mainly influenced by *Apana vata*. In this phase of menstruation, the spasm in the straight stem arterioles as a causative phenomenon of bleeding is similar to action of *vata* through dhamnees.

### Ritukala

This phase is mainly influenced by *Kapha*. According to *Ayurveda*, for anabolism and growth *Kapha* is essential. It is a period that resembles with the proliferative phase.

### Rituvyatitkala

This phase is influenced mainly by *Pitta*. According to *Ayurveda*, *pitta* is essential for various secretions in the body. This phase resembles with secretory phase.

As menstruation is governed by *doshas*, their imbalance causes abnormality. Therefore, it is necessary to have balance state of *doshas*.

## CONCLUSION

*Artavachakra* is one of most important physiological events in women's reproductive life. A healthy *artavachakra* is must for conception and developing a healthy progeny. By the knowledge of *Ritukala* one can assess physiological and pathological stage of women reproductive life. Knowledge of *Ritukala* is also essential in reference of family planning to avoid conception.

Thus, we can say that menstruation has been very well explained in *Ayurveda*. The complete physiology of menstruation, age of onset, age of withdrawal, duration of menstrual blood in a normal condition have all been explained in details. Today with the development of modern tools and techniques, we are able to explain these things in terms of hormones and other physiological processes. But the concept given by our *Acharyas* can never be ignored.

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