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REVIEW ARTICLE

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Beejotsarga - An Ayurvedic prospective on Ovulation

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ABSTRACT

The aim of Ayurveda is Swasthasya Swasthya Rakshanam & Aturasya Vikara Prashanam, which means the maintenance of health and the cure of disease. Beejotsarga (ovulation) is an important physiological condition in women that further grants her the identity of motherhood. Arthava is the Upadhatu of Rasa Dhatu and is responsible for conception. In Ayurveda, Arthava is considered as a Beeja (seed) produced during Beejotsarga (ovulation), which occurs during the ovulation period, also known as Rutukala. The proper condition of Agni, Dhatus, and Upadhatus is essential for a proper Beejotsarga. An improper condition of these elements hampers the physiological process of ovulation. Therefore, it is necessary to study the Ayurvedic concept of Beejotsarga to understand the clinical aspects of ovulation in order to effectively cure and prevent diseases.

Key words: Beejotsarga, Aartav, Dhatu, Agni.

INTRODUCTION

Among various basic principles & physiologies described in Ayurveda *Beejotsarga* that is ovulation. Which is important physiological condition in women further which gives her identity of motherhood.

Beejotsarga is one of the most important phases of the menstrual cycle, in which the ovum or egg cell is released through one of the ovaries. Ovulation is a passing phase that lasts for only 24 to 28hrs which means 1 to 2days i.e., called as Rutukal.

In classics different terms are used to denote the ovum/Beeja such as Asrik, Shonita, Artava, Raja,

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Antahpuspha, Rakta, Lohit etc.

The human ovulatory cycle is associated with a specific pattern of hormonal changes, just before ovulation, women experience an increase in estrogen (an ovarian hormone and lutenizing hormones indicates that ovulation will occurs within 24-36 hours.

Beejotsarga is also influenced by the Agni, Doshas, Dhatus, Prakriti, Srotas age etc. Improper condition of all these factors intact the hypothalmo-pitutary-ovarian axis and normally functioning reproductive system.

REVIEW OF LITERATURE

Beejagranthi or ovary is that part of female genital organ in which the *Beeja* is stored, matured and expelled out in proper time.

Beeja: Which gives birth to another object by removing its covering or secrecy is called *Beeja*. *Beeja* has capability to produce another progeny. *Beeja* indicates both *Shukra* i.e., spermatozoa and *Artava* i.e., ovum, in male and female respectively. *Beeja* is the substance which is responsible for reproduction.^[1]

Synonyms: Artava^[2], Shonita^[3], Asrika, Raja, Rakta, Lohita, Pushpa, Beeja.

Beeja Nirmana

Ahara is the most important entity for survival. The Ahara, composition of Panchamahabhuta, is acted upon by Jatharagni, Bhutagni and Dhatvagni and the resultant nutritious material is made available up to cellular level. In this course, Ayurvedic texts mentioned the formation of Dhatus, Upadhatus, Malas, and Doshas etc. The formation of the factor responsible for Garbhadharana occurs from Rasadhatu. The Ahara Rasa derived from the consumed Ahara by Jatharagni's action is subjected to Rasa Dhatvagni to produce the Artava. The Karma of Rasadhatu is Prinana.

As the incidence of description of *Stanya* and *Artava* as the *Upadhatu* of *Rasadhatu* is prevailing, this *Prinana* refers to their *Upadhatus* also. As this *Rasa Dhatu* goes on decreasing qualitatively & quantitatively with age, it occur same with *Upadhatu*. We find the absence of *Artava* and *Sthanya* in the old female. Through the function of *Rasadhatu* is seen throughout the body it shows specificity in this function varying with the specificity of the *Srotasa* to which it is exposed. In the same context; the very scientific explanation of physiology of *Beeja Nirmana* is given by (Vishvamitra in Sushruta Sutra 14/14,) *Chakrapani* Commentary. He explained that *Rakta* the form achieved by the *Rasa* after entering into the particular concerned.

Srotas enters into the minute channels attaining the particular nuclear form which has the capacity to form *Beeja* in the same context.

Acharya Sushruta described that the Rasa which attains Raktatvah through innumerable Dhamanis, gets Upachita to reach the form of Artava, Vagbhatta describe the whole procedure with the same terminology.

Here Acharya Kashyapa only differing in the terminologies but quoting the same things indicating a common gist. He mentioned that the Garbha forming entity is exposed to the Rajovaha Shiras where the Rajaha Pravisarjana occurs. Then it takes the form of Pushpa (i.e., becomes Pushpibhuta) & its Pravartana occurs every month. This process of Pravartana is governed by Apana Vayu as mentioned by Acharyas in the Prakrita Karma of Apana Vata. Similarly, the

Parisarpana mentioned as at the time of coitus requires presence of Agni, which can correlate to Pitta. The Upachaya taking place prior to these processes is because of Kapha as inferred logically. Here one might be confused as to whether this procedure is in existence right from birth. This physiology is very precisely explained in the classics.

The presence of this *Artava* is there in the body of the female since the unopened flower bud which has fragrance in its core but because of its undeveloped condition it is not evident. So, it is the case with *Bala* also which attains maturity with *Kala*.

The scientific reason given by *Acharya Kashyapa* in the same context is that as long as not all the *Dhatus* of a female body are complete with nutrition they do not divert themselves to the Yoni, hence this maturity is achieved only after all the *Dhatus* are *Paripurna*. [4] Thus, we can summarize the events giving the cause of expression of physical maturity characters as *Vayu Parinamata* and *Kala Sapekshata*.

Role of *Kapha - Vata* in *Beeja Nirmana* and *Beejotsarga*

The word *Nirmana* refers to the formation of *Beeja* i.e., *Upachaya* which is *Karma* of *Kapha Dosha*. The term '*Utsarga*' means to expel or to leave. So, expulsion of matured ovum from the *Beejagranthi*/ovary is known as *Beejotsarga*.

Kapha plays imperative role in Beeja Nirmana. If we go in context to Srishti Nirmana, Tamo Guna has been considered as Prithvi and Jala Mahabhuta Pradhana and Kapha is also having the same properties. Prithvi and Jala plays important role in Nirmana Prakriya. Acharya Charaka has mentioned Upachaya as one of the important Karma of Kapha and Acharya Sushruta states Kapha as Sandhi Sansleshana, Snehan, Ropan, Puran, Bala, Sthairya Kruth.

All these virtues help in formation of *Beeja*. Moreover, *Kapha* and *Rasa* having *Ashrayashraryi Bhava*, it plays an important role in formation of its *Upadhatu Artava*.

Beejotsarga in relation to Vata and Karma Swabhava

An ancient medical science - Ayurveda imagines that each and every function of body is determined by *Vayu*. It controls all physiological processes which

occur in body (homeostasis). When it is in normal state; it supports (*Dhahran*) and nourishes (*Pachana*) the body but vitiated *Vata* produces many abnormalities in body. The first most important function of *Vayu* is *Vibhajan* (*Vibhajati*). By this activity it creates the structure of fetus during antenatal period.

Moreover, it yields sperm and ovum for offspring. Ovum is prepared in ovary by cell division. This function of cell division is completed by *Vata*. The second most important function of *Vata* is it helps for ovum to escaped from the ovary and ovulation takes place. The whole activity is known as *Dhatuvahan* -the third main function of *Vata*. The second responsible factor for cell division is "*Karma* and *Swabhava*" in the view of *Acharya Charaka* on this factor.

Acharya Chakrapani commented that not only Vayu but Karma and Swabhava equally play an important role in cell division. Because Karma and Swabhava controls the action of Vayu otherwise; Vayu alone would either constantly create things or constantly cause destruction of the things. Thus, Vayu when properly regulated by the Karma and Swabhava it works in a balanced state which causes normal physiological function. So, it is concluded that Vayu Karma and Swabhava are responsible for folliculogenesis as well as ovulation according to the Ayurvedic approach.

Swarupa of Beeja^[5]

Acharya Sushruta has described similarity between Artava and Rakta. Artava is Agneya having dominance of Agni Mahabhuta. Acharya Vagbhata says the occurrence of Artava is periodical and it is of two (Dwi), three (Tri) Bindu Pramana. While commenting on the Samyoga of Shukra and Artava Dalhana has described the Swarupa of Artavas Alpa, Styanibhuta, Sukshma and Asanchari.

Kala of Beeja Nirmana

The manifestation of *Artava* in a woman's life occurs within specified time period called the *Kala*. It is mostly the *Avasthika Kala* that plays the more important role. Various aspects regarding this are:

1. The onset and the cessation

- 2. Monthly occurrence
- 3. Specific days i.e., Rutukala
- 4. Specific time of Beejotsarga (ovulation)

(1) Onset and Cessation

The Artava becomes Vyakta in a female body from the age of twelve years and persists up to fifty. Thus it is physiologically absent before twelve years and after fifty years. It is also mentioned that Artavavaha Srotasa in Avarodha status during Garbhini Avastha indicating physiological aspect Beejotsarga.

(2) Monthly occurrence

The *Artava* is manifested from Rasa in the female body within a month.

Physiology of Beejotsarga

Thirty days or one month is required for completion of the *Rutu Chakra*. It is divided into three phases according to changes occur in the female both in the genital organs and in general body. i.e.,

- Rajahsravakala 3-5 days.
- Rutukala 12 or 16 days.
- Rutuvyatita kala 9-13 days.

Rutukala is important for the present study as Beejotsarga occurs during this period.

(3) Rutu Kala^[6]

Rutukala is the appropriate period for Beejotsarga and also for Garbhadhana. Rutukala is defined as period most suitable for achievement of conception. The Rutukala in which, the seeds deposited are likely to bear fruits. This directly refers to the period of ovulation where in the chances of conception are most. The physiology of Beejotsarga can be explained as the changes occurring during the Rutu Kala. Acharya Kashyapa has explained Rutu Kala as the Beeja Kala.

Duration of Rutukala

Rutukala is a period in which ovulation takes place. So Rutukala is highly fertile periods of menstrual cycle in reproductive age. Various theories are available in this context are:

- It is of 12 days.
- It is of 16 days.
- It is for the whole month.
- It is present even in the absence of menses.^[7]

The first two opinions are supported by the definition i.e., the most fertile period and last two opinions are derived from the observation that conception occurs in some exceptional cases in entire month. It can be stated that the first two opinions which are suggestive of the period in relation to menstruation are of more interest. Though it appears that two opinions are different, they are not. Those who describe the period as twelve days exclude four days of menstruation. While those who describe it to be of sixteen days including the four days of menstruation. In short, *Rutukala* starts from the fifth day of menstrual cycle and ends on seventeenth day of menstrual cycle.

Acharya Kashyapa, Vishvamitra and Bhavamishra have mentioned the duration of Rutukala as twelve days for Brahmana, 11 or 10 days for Kshatriya, 10 to 8 days to Vaishya and 9 or 6 days for Kshudra. Description of difference in duration for different casts has no scientific prevalence. It might have come of due to different dietetic and behavioral pattern.

Changes during Rutukala

Female after 7 days of menstruation i.e., in *Rutukala* is called as *Rutumati*.

Acharya Charaka says that after the previous (Raja accumulated in previous Rutukala) is gone and new one has settled [one menstrual cycle is over and another has set in] and after taking the bath the woman possessing healthy Yoni, Garbhashaya and Shonita (healthy reproductive system and ovum) is termed as Rutukala

Characteristic features of Rutumati

According to *Acharya Sushruta* and others, she looks bright and healthy, her mouth and teeth are moist, she is anxious to hear love stories and have sexual relation, her flanks, eyes and hair she has twitching over arms, breasts, pelvis, umbilicus, thighs and hips and is happy and excited. Importance of *Rutukala* is for conception;

Acharya Charaka has emphasized on the healthy condition of reproductive system and ovulation, least abnormalities of these hamper fertilization, others have described just psychological changes. It is mentioned earlier that woman was kept secluded for three days, after that use of bath and adornment on fourth day and permission as anxiety to have sexual relation might be responsible for above mentioned changes. Changes in genital organs:

Acharya Charaka says that during Rutukala Navina Raja settles and the genital organs are in healthy condition, denoted by the word Avyapanna. After the cessation of Rutukala (Rutuvyatit Kala), it is said that the Yoni contracts or closes (Sankochayati or Samvriyate) which restricts the Beejapravesha.

Thus, we conclude that the *Yoni* is open in *Rutukala* which facilitates *Beeja Pravesha*.

Thus, Vagina is ready to allow the entry of sperms; the uterus is ready for nidation, ovum is ready for fertilization, i.e., the period is the maximum fertile period, *Rutukala*.

(4) Time of ovulation^[8]

As butter melts when heat is given, similarly woman secretes *Artava* during coitus with male. *Acharya Dalhana* has explained that *Purana Artava* is excreted during three days of menstrual blood loss. *Navina Artava* being less and solid (*Alpa, Styanibhuta*) cannot come out but due to heat generated during coitus it melts, gets excreted and mixed with *Shukra*, thus initiates conception. Here probably *Acharya Dalhana* refers to the ovum by the word *Artava*.

Role of *Dosha* during the *Rutu Chakra*^[9]

Rutukala

This phase is influenced mainly by *Kapha*. Level of *Kapha* starts increasing at the end of *Rajah Kala*. During *Rutukala*, *Kapha* level reaches at its peak, this is called as *Kapha Prakopa*. Level of *Pitta* starts increasing in latter half of *Rutukala*. This stage is called as *Pitta Kshaya*. *Vata* is at its normal level during the whole phase. Thus, it is quite clear that *Kapha* is the predominant *Dosha* in "*Rutukala*".

Rutuvyateeta Kala

The phase is influenced mainly by *Pitta*. The level of *Pitta* which starts increasing at the end of *Rutukala* reaches the level called as *Pitta Prakopa*. As the level of *Pitta* increases, level of *Kapha* goes on decreasing till it comes to the level of *Kapha Shaman*. During the latter period of this stage *Vata* comes into action. *Vata* and *Pitta*, because of their certain properties, increases further Thus, *Pitta* predominates in this phase called "*Rutuvyateetakala*".

Rajah Kala

The phase is influenced mainly by *Vata*. It is actually the *Vata Prakopa* which starts this phase. As soon as menstruation starts *Pitta Prakopa* come into a stage of *Pitta Shaman*. *Vata* plays its role throughout the phase. But as *Pitta* decreases *Kapha* comes into play and a stage of *Kapha Kshaya* comes. *Vata* always acts through *Dhamanee*. *Dhamanee* means arteries. The spasm in the spiral arterioles as a causative phenomenon of bleeding is similar to the action of *Vatam* through *Dhamanee*. ^[10] Thus, *Vata* predominates in the phase called "*Rajah Kala*".

CONCLUSION

Thus, we see that Beejotsarga in Rutukal has been very well explained in Ayurveda. Rutukal is highly fertile periods of menstrual cycle in reproductive age. According to our Aachrya's Rutukal is of 12 days, It is of 16 days, It is of whole month. It is present even in the absence of menses also because many adult women are sexually active through entire month due to hormonal fluctuation. Hormones reached at peak level only during ovulation. Here in this article an effort has been made to understand the factors involved in causing the Beejotsarga in Rutukal and Lakshana's during ovulation. Today with the development of modern tools & techniques explain & identity the ovulation like that in Ayurveda our Aacharya's has also explained the Rutumati Lakshana's which are seen in the Rutukala will help to understand about the ovulation this can help you to work out the best times to try to conceive. In present era Infertility is a major health issue, thus understanding what controls

ovulation is critical for improved in vitro – fertilization (IVF). Depending on which *Dosha*, *Dhatu's* are involved in ovulation according to that we have to consume the *Aahar - Vihara* & also maintain the life style (avoid sedentary lifestyle) for proper ovulation in women helps avoided the conditions like infertility, PCOS, PCOD etc.

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