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PHYSIOLOGICAL ASPECT OF AARTAVVAHA SROTAS: A REVIEW

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ABSTRACT

Srotas, meaning channels or pores, are present throughout the visible body and at the "invisible" or subtle level of the cells, molecules, atoms, and subatomic strata. The nutrients and other substances are transported in and out of human physiology through these channels. When the flow of appropriate nutrients and energies through these channels is unimpeded, there is health; when there is excess, deficiency, or blockage in these channels' disease can take root. The Sanskrit root "Srugatau (Sru + Tansi = Srotas)" signifies "moving, sifting, flowing, secreting, and leaking." The "structure through which *Sravanam* (flow) occurs" is *Sravanat Srotanshi*. *Sravanat*, according to *Chakrapani*, refers to the *Sravanam* of *Rasadi Poshya Dhatu*. *Srotas* are the circulation channels that transport the *Dhatu*s undergoing metamorphosis to their final destination. Different *Acharyas* mention a variety of numbers and types of *Srotas*. *Srotas* was explained by *Acharya Charak* from a medical perspective, while *Acharya Sushrut* explained *Srotas* from a surgical perspective. *Artav-vaha srotas* have two roots, according to *Acharya Sushruta*: *Garbhāsaya* (uterus) and *Artav-vaha Dhamani*. Here, *Artav-vaha Srotas*, also known as *Yogvahi Srotas*, is *Antermukh Srotas*. *Artava* refers to menstrual blood, whereas *Artav vaha Srotas* refers to the part of the female reproductive system responsible for generating menstrual blood and the passages that carry it during the monthly cycle.

Keywords: *Srotas*, *Artav-vaha srotas*, *Ritu Charka*, female reproductive system

INTRODUCTION

Ayurveda explained different structures or parts of the *Artavavaha Srotas*, similar to the structures of the female reproductive system. The *Artavavaha srotas* or channels carrying the menstrual blood out of the body during the monthly menstrual cycle in women are 2 in number¹.

The female reproductive system comprises primary sex organs and accessory sex organs. Primary sex organs are a pair of ovaries, which produce eggs or ova and secrete female sex hormones, estrogen and progesterone. Accessory sex organs in females are:

1. A system of genital ducts: Fallopian tubes, uterus, cervix and vagina
2. External genitalia: Labia majora, labia minora and clitoris.²

Artavavaha srotas are the channels or a system performing two main functions in females:

1. *Raja parvatan* (menstruation) for three days after a cycle of 28 days.³
2. Production of *Artava* (*beeja*), *Garbhadhan* (conception), *Garbha vridhhi* (fetal development) and expulsion of *Garbha* after maturity, i.e., *Prasav*.

Ancient authors use the *Artava* to mean both the ovum and the menstrual fluid, and it is also used to denote the discharge per vaginal. Similarly, the term *Raja* and *Rakta* are also used for menstrual discharge.

Further explaining *Aartavaha srotas*, it contributes:

1. ***Rakta* or *Rajavaha srotas*** (*Bahir mukha srotas*), i.e., the vaginal orifice, is one in number and related to only menstrual discharge.
2. ***Artavavaha srotas*** (*Antarmukha srotas*), i.e. A system analogous to *shukravaha srotas* in males performing reproductive functions both in males and females. It is two in number.

RAKTA OR RAJAVAHA SROTAS

Acharya Sharangdhara mentions these *srotas* in *Bahir mukha srotas* and called vaginal orifice '*Rakta path*'⁴. And its commentator *Arundatta* describes '*Raktapath*', which means the blood channels in the reproductive system of female, through which blood comes out every month.

ARTAVAVAHA SROTAS

Aartavaha srotas are analogous to *sukhravaha srotas* in males (male reproductive system) because *sukra vaha Dhamni* performs a similar function in males as *Aartavaha dhamnies* in females.⁵

SHARIRKRIYA OF RITUCHAKRA

Ritu Charka, or menstruation, is a normal physiological process indicating a woman's blood. It is a cyclical process and repeats every month.

Artava, *Shonita*, *Asrik*, *Rakta*, *Lohila* etc. words are used in the classic to denote menstrual blood or ovum at different places, while *Rudhira* and *pushpa* denote only menstrual blood and *beeja* is used for ovum. Though commentator *Arunadatta* has specifically indicated to consider menstrual blood with the word *Artava*, in *Astanga Hridaya* word *Artava* is used to denote ovum. *Artava* and *Rakta*, when used in relation to the menstrual cycle, should be considered as *Raja*, i.e., menstrual fluid. In other references, the word *Artava* or *Rakta* may have a different meaning.

ARTAVA UTPATTI HETU

If we aggregate the different opinions of our *Acharya's*, we can reveal the following *Hetu*, i.e., factor for *Artava utpatti*.

1. *Desha* (climatic conditions where women live)
2. *Kala* (Particular phase or period of life)
3. *Anuvanshika Bhava* (Hereditary factor)
4. *Dhatu Paripurna* (maturation of Dhatus)
5. *Karma* (action or work)
6. *Swabhava* (natural process)
7. *Vayu* (air in the body).

FACTORS INFLUENCING THE MENSTRUAL CYCLE

Rasa

It is a well-known fact that *rasa* is the main source which supplies nourishment to various *dhatu* and *updhatu* of the body.

But as far as *raja* is concerned, it is said to be a *updhatu* of *rasa*.⁶

Rakta

The blood discharged by a woman during her menses is the same, which circulates through her body.⁷ *C. Dwarkanath* says that justification for the inclusion of this *raja* under *updhatu* is perhaps:⁸

1. Due to its intimate relationship to her normal biological functions and
2. Due to its close resemblance to the circulating *rasa dhatu*.

Artavavaha Srotas

As it is described earlier that it is the reproductive system in females responsible for menstruation every month, and in this process, especially *Artavavahi dhamanias* and *sira* play a significant role, as they carry menstrual blood as well as ovarian hormones to regularize and maintain the discharge every month.

Dosha

Like all other physiological processes, menstruation is also governed by three *doshas* viz *vata*, *pitta* and *kapha*. The influence of *Artava rituchakra* by *doshas* is further explained in the mechanism of menstruation of *Rituchakra*.

PHASES OF MENSTRUATION

Menstruation is a cyclical process spread over thirty days. This period is divided into 3 phases. According to physiological changes taking place in the body. The phases are (a) *Ritukala* (b) *Rutavateeta Kala* (c) *Rajakakala*.

RITUKALA

About *Rutu Kala*, there are four opinions:

1. It is twelve days after menstruation.⁹
2. It is sixteen days after menstruation.¹⁰
3. It is for the whole month.¹¹
4. It is present even in the absence of menstruation.¹²

The first two opinions are supported by the definition of the most fertile period, and the last two opinions have arrived from the observations that conception occurs in some exceptional cases during any period of menstruation and the absence of menstruation. The first two opinions, which suggest the period concerning menstruation, are of more interest. Though it appears that the two opinions are different, they are not those who describe the period as twelve days, excluding four days of menstruation, while those who define it to be sixteen days, including four days of menstruation.

In short, *Ritukala* starts on the fifth day of the menstruation cycle and ends on the seventeenth day.

In the modern view, the Proliferation phase starts after the repair phase and ends at ovulation; the average period is twelve to sixteen days.

DESCRIPTION OF CHANGES

As previously collected *raja* has been discharged, a new collection of *Raja* starts.¹³ After shedding Endometrium functionalis in the menstrual phase, the formation of the functional layer starts in *Ritukala*, and new blood vessels are grown in this layer, i.e., collection of *raja* starts.

The female genital organs are in good health condition. The term *avyapanna* clearly explains the condition of female genital organs. *Vyapana*, i.e., diseased. *Avyapanna*, i.e., undiseased, healthy."

The uterus is ready for nidation; an ovum is prepared for fertilization, and the vagina is prepared to allow the passage of sperm through it, in short, the period of the maximum fertile period.¹⁴

Thus, the phase *ritukala* is not merely a period following menstruation but is that period in which the female genital organs are in good healthy normal condition. In other words, well developed proliferative phase accompanied by ovulation is the *ritukala*.

From the above explanation of *ritukala*, which resembles the proliferative phase, it may appear reasonable if the following things are considered.

1. Ovulation ideally occurs on the 14th day of the 28-day menstrual cycle but may vary in the case of a 24-26 days cycle on the 12th day, and in cases of a 30-32 days cycle, it may occur on the 16th day.
2. Ovum free from Graafian follicle survives only a few hours unless conception occurs.
3. Sperm survives after being introduced into the uterus for 48 hours, but it has been found to survive for seven days in some rare cases.

These three statements suggest that the introduction of sperm before ovulation is better than after ovulation, and if at all it is to be introduced after ovulation, it should be introduced within twenty-four hours, i.e., up to fifteen days in a cycle of twenty-eight days and up to the seventeenth day in the process of thirty days.

RITAVATEETA KALA

This phase has been described in a very concise way. It has been mentioned that the menstrual cycle repeats after one month, i.e., twenty-eight to thirty days. *Rajakakala* and *ritukala* are together for

sixteen days duration. Naturally, the remaining twelve to fourteen days form a phase of menstruation. While describing the phase, 'Ritauvateete' and 'Ritavateete' are the terms used in the old text. Hence the term *Ritavateeta* kala is used to denote this phase. Thus, the *Ritavateeta* kala is present for fourteen days, starting at the end of *ritukala* and ending at the beginning of *rajakala*. In this period, *yonisankocha*, i.e., regression of yoni, takes place. The yoni does not allow the entry of *shukra*. Coitus is also prohibited during the period, the idea behind this being that it will be futile coitus and not fertile coitus.¹⁵

Modern science shows a similar view; progesterone raises the tone of muscles of the isthmus and internal Os, so the cervical 'sphincter' is tighter and more competent during the luteal phase.

In late *Ritavateeta kala*, i.e., luteal phase in modern, due to progesterone activity, there is an increase in the amount of protein and phospholipid in the cervical mucus plug, making it dense and resisting the penetration by spermatozoa.¹⁶

RAJAH KALA

It is a period in the menstrual cycle in which menstrual blood is seen for three to seven days, an average of about five days.

DISCUSSION

Rakta or *Rajhvaha srotas* is *Bahirmukh srotas* i.e., vaginal orifice. Therefore, it is an opening related to menstrual discharge every month. *Artavavaha srota* is a *yogavahi srotas*, and it is a Reproductive system in females analogous to *shukravaha srotas* in males performing reproductive functions. Vaidyas have used the 'Srotansi' word for *Artavavaha srotas* indicating two in number.

Garbhāśaya and *Ārtavavaha Dhamanī* have been considered as *Moolasthān* for this *Srotas*. *Garbhāśaya* is mainly responsible for the production of *Artava*. In *Garbhāśaya* Pradesh, Uterus and ovaries are included. *Ārtavavaha Dhamanī* conducts the *Artava* towards the uterus during the menstrual phase. In this regard, *Garbhāśaya* is *Moolasthān* as the origin point of view, while *Ārtavavaha Dhamanī* is the conduction point of view. The functions of *Srotas* are the transportation of biological fluids, physiological regulatory factors, nourishment of tissue, and biodiversity of medicaments on the integrity of the *Srotas*. Understanding the concept of *Srotas* facilitates the physician to take decisions accurately concerning treatment and prognosis.

CONCLUSION

Artavavaha srotas, *Sushrut* mention *Garbhashaya* (uterus) and *Artavavahi dhamanies* (fallopian tubes and uterine arteries) as *moola* but do not include ovary and ovarian vessels. *Artavavaha srotas* are not completed without ovary and ovarian vessels in this scientific era. Without an ovary, no hormonal secretion, no ovum release and no menstruation occur every month.

It is proved by the fact that if some pathology occurs in the ovary or oophorectomy is done or during menopause; the ovaries shrink; there is no menstruation occurs in women. Though there

is a uterus, fallopian tubes and uterine blood vessels are present, still menses absent.

REFERENCES

1. Sushruta Samhita, with commentary of Dalhana. Edited by Vaidya Yadav Ji Trikram Ji, Chaukhamba Orientalia, Varanasi 8th edition, 2005, Su. Sha.9 P 98
2. K. Sembulingam, Essentials of Medical Physiology, Sixth edition. New Delhi, Jaypee Brothers Medical Publishers, 2013; p 474
3. Ashtanga Hridaya by Atri Dev, edited by Yadunandan Upadhdhyaya, Published by- Chaukhamba Sanskrit Series Office, Varanasi-1959, A.H. Sha.1/7 P 230
4. Sharangdhara Samhita, with commentaries Deepika by Ahamalla and gudharthadeepika, Chaukhamba Surbharati Prakashan, Varanasi, 2006, Sh. 3/40 P 56
5. Sushruta Samhita, with commentary of Dalhana. Edited by Vaidya Yadav Ji Trikram Ji, Chaukhamba Orientalia, Varanasi 8th edition, 2005, Su. Sha.9/7 P 94
6. Charaka Samhitas - Vidyotini Hindi Commentary –Pt. Kashinath Shastri and G.N. Chaturvedi, Part 2nd Ch. Chi. 15/17 P 456
7. Ashtanga Hridaya by Atri Dev, edited by Yadunandan Upadhdhyaya, Published by- Chaukhamba Sanskrit Series Office, Varanasi-1959, A.H. Sha.1/22 P 233
8. Thesis Lalitesh. A physiological study of stanyavaha and artavavaha srotas w.s.r. to survey on estrogen dominance” 2008 P 55
9. Ashtanga Samgraha by Atri Dev, edited by Yadunandan Upadhdhyaya, Published by Chaukhamba Sanskrit Series Office, Varanasi-1959, A.s. Sha.1/38 p 270
10. Brahma Shankar Shastri, Bhava Mishra, Bhavaprakasa Samhita Vidyotini Commentary by Chaukhamba Sanskrit Series (5th ed.) Varanasi, India. 1969. Bh. P 10/2
11. Ashtanga Samgraha by Atri Dev, edited by Yadunandan Upadhdhyaya, Published by- Chaukhamba Sanskrit Series Office, Varanasi-1959, A.s. Sha.1/38 p 270
12. Sushruta Samhita, with commentary of Dalhana. Edited by Vaidya Yadav Ji Trikram Ji, Chaukhamba Orientalia, Varanasi 8th edition, 2005, Su. Sha.3/5 P 27
13. Charka Samhita - Vidyotini Hindi Commentary –Pt. Kashinath Shastri and G.N. Chaturvedi, Part 1st, Ch. Sha. 4/7 P 868
14. Sushruta Samhita, with commentary of Dalhana. Edited by Vaidya Yadav Ji Trikram Ji, Chaukhamba Orientalia, Varanasi 8th edition, 2005, Su. Sha. 3/8 P 27
15. Sushruta Samhita, with commentary of Dalhana. Edited by Vaidya Yadav Ji Trikram Ji, Chaukhamba Orientalia, Varanasi 8th edition, 2005, Su. Sha.3/7 P 27
16. Jeffcoates Principles of Gynaecology/Neerja Bhatla/Menstruation and other cyclic phenomenon/ the cervical cycle.

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