Female reproductive system in relation to Srotas and Panchbhautik composition
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Abstract:
Background: Srotas are a unique feature of Ayurvedic medicine that describe the body's systems. Every living organism is made up of a Srotas. Garbhashaya and Artavavahi Dhamani are the Moolasthanas of Artavavaha Srotas, a physio-anatomical structure found in the female pelvic cavity. It is closely linked to the contemporary female reproductive system, in which the uterus, fallopian tube, and ovary are the most significant morphological and functional components. In two ways, the concept of Artavavaha Srotas has been defined i.e., macroscopically and microscopically. It is a reproductive tract where menstruation, fertilisation, and foetal development take occur on a macroscopic level. And for microscopic level we must understand physiological aspect. Several organs of the female reproductive system are described in detail in Ayurvedic Samhitas. In Ayurveda, the name Bhaga refers to the Smaramandira and Yoni, which are related to Vulva. Smaratpatra is found in the top region of the vagina, near the clitoris, which is a highly stimulated during sexual activity. Yoni is made up of three different Avarta. Vagina and related structures are included in Prathamavarta, cervix and accompanying structures are included in Dwitiyavarta, and the uterus and its appendages are included in Tritiyavarta. The organ that contains the Garbha is known as the Garbhashaya (the foetus). Yoni is shaped like a conch shell and is divided into three Avartas, with Garbhshaya located in the third Avarta. The Panchbhautik composition of the female reproductive system has also been discussed in depth in terms of Akasha, Vayu, Teja, Jala, and Prithvi Mahabhuta in the literature.

Key-words: Artavavaha Srotas, Garbhashaya, Artavaha dhamani, Bhaga, Mahabhuta

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INTRODUCTION:

Ayurveda is defined as a system that employs natural principles to assist people maintain their health by maintaining their mind, body, and spirit in perfect harmony with nature. According to Acharya Sushruta, a physician should be knowledgeable in all branches of Ayurveda so that he or she can diagnose and cure any condition. To treat any disease, one must have a thorough understanding of the disease's pathophysiology. However, the physician must first have a thorough understanding of the anatomy and physiology of the organ involved in the sickness in order to treat it effectively and efficiently. Srotas are a unique feature of Ayurvedic medicine that describe the body's systems. The major channels of the body are known as Srotas. Srotas are hollow chambers in our bodies that transfer Parinam prad dhatu from one location to another. The secretory channels or Srotas are the systems or parts of the biological systems that are responsible for the secretions or movement of Dhatus. Srotas are a collection of channels that make up a living organism. The Artavavaha Srotas have diverse structures or sections that are analogous to the female reproductive system, according to Ayurveda. There are several descriptions available of many organs of the female reproductive system in Ayurvedic Samhitas. In Ayurveda, the name Bhaga refers to Yoni, which is equivalent to Vulva. It appears to be a description of the complete vulva's diameter. Yoni’s structure is similar to that of a conch shell: it's wider at the beginning, kinked in the centre, and then broader again at the end. It's said to be made up of three Avarta. Vagina and related structures are included in Prathamavarta, cervix and accompanying structures are included in Dwitiyavarta, and the uterus and its appendages are included in Tritiyavarta. Yoni is shaped like a conch shell and is divided into three Avartas, with Garbhashaya located in the third Avarta. Garbhashaya refers to the uterine cavity, which is shaped like a Rohita fish.

Concept of Female reproductive system in terms of Srotas:

The Garbhasaya and Artavavahi Dhamani are mentioned in Ayurveda as a Moolsthan of Artavavaha Srotas. From the beginning, Garbhashaya is primarily responsible for Artava's creation, production, and expulsion. Both the uterus and the ovaries have the same anatomical and functional properties,
and both have the same pathological and clinical circumstances following damage. Artavavahi Dhamani can be defined as a fallopian tube that conducts Artava (ovum) towards the uterus during the menstrual cycle, as well as ovarian and uterine vessels.

The word Dhamana refers to contraction, so in this study, the fallopian tube contracts and conducts the ovum, thus acting as an Artavavahi Dhamani.\cite{6} Yoni is derived from the term "Yuj" Dhatu. It's a word that meaning "to unite" or "to link".\cite{8} Yoni's form has been described as "Shankhnabhyakruti" by Acharya Sushruta and Acharya Vagbhata.\cite{9} This indicates that it is constricted at the start, dilated in the middle, and narrowed towards the uterine extremities. In the inner side, there are three Aavartas.\cite{10} These look like rugae or ridges. Yoni's third Aavarta contains Garbhashaya. The Yoni's form, according to Acharya Kashyapa, should be "Shakhatakruti".\cite{11} He's also mentioned Yoni's different oddities in terms of form. Yoni is a term used by Vagbhata to describe Stri-Janendriya (female genitals). Yoni is also known as Apatyapatha, which means "vaginal".\cite{12} In several situations, he referred to Yoni as Garbhashaya. In Garbhaparakaran, Bhavprakasha uses the words Manobhavagara for Yoni and Manobhavagarmukha for Yonimukha. According to him, Manobhavagara has three Nadies: Samirana, Chandramukhi, and Gauri Nadi. Samirana Nadi is the primary Nadi. As a result, the term Yoni was utilised by Acharyas for a variety of purposes. Yoni (vagina), Garbhashayamukha (cervical canal), and Garbhashayya (uterus) are three circular folds or subdivisions that go from exterior to interior and symbolise the whole reproductive system of a female.\cite{13} Yoni is said to be comparable to the Bhaga, according to Dalhana. Yoni's Parinaha, according to him and Acharya Charaka, is 12 Anguli. Yoni's synonyms include Bhaga, according to Amarkosha. According to Madhavnidana's description of Bhaga, Bhaga may be defined as the ischiorectal fossa. The ischiorectal fossa's base is pointed toward the perineum's surface, and its apex is at the point where the obturator and anal fascia meet.\cite{14} Kaviraja Gangadhar, a commenter, referred to "Bhaga" as "Strilingam." According to Vaitaran, Basti is located beneath the Bhaga, whereas Garbhashaya is located above it. The definition of Bhagandara Vyadhi was given by Acharya Sushruta. According to him, Bhagandara
Vyadhi occurs in Bhaga, Guda, and Basti as a result of the Daran of these regions.\cite{15,16,17} Two Yonikarnika Peshies have been clarified by Acharya Dalhana. These may be found on the Yonimukha's side (one on each side). These are spherical. Apatyapatha is also known as Yonimarga or vaginal canal. Apatyapatha is made up of four Peshies, according to Aacharya Sushruta. Two Peshies are on the inside and two are on the outside of the Mukha, both of which are round. According to Dalhana, the Peshies that lie outdoors on the Mukha might be considered Yonikarnika.

Garbhashaya, according to Vachspatyama, is the Garbha-aadhar Sthan, or a spot that supports a growing foetus. Garbhashayya is the synonym he has provided for Garbhashaya. The term Ashaya in Garbhashaya refers to a cavity or space in a certain organ that is a main functional region or cavity of the body. Garbhashaya is a hollow region in the body that aids in the implantation and growth of Garbha (foetus). It does not relate to a particular organ, but rather to the hollow space where numerous bio physiological functions occur. Garbhashaya is referred to as Vipulstrotas Kukshi by Acharya Kashyapa while discussing the formation of organs. In Sharira Sthana, Aacharya Charaka explains the Garbha Utpatti in great depth. Kukshi, he claimed, is nothing more than Garbhashaya, the area where Garbha is formed and developed. He's also referred to it as Antkukshi. Garbhautapatti was referred to as Garbhashaya and Kukshi by Acharya Vagbhata. In Sharira Sthana, Acharya Sushruta refers to the Garbhashaya as "Kshetra." In the Samhita's Sharirasthana, Acharya Vagbhata refers to the Garbhashaya as Garbhakoshtha. In relation to Garbhashaya, Dalhan has utilised the phrases Phala and Phalyoni. While describing Ashmari Chikista, Aacharya Sushruta highlighted the position of Garbhashaya as it rests on the Parshwa of Basti. He also claims that Garbhashaya is located between Pittashaya and Pakwashaya and is home to Garbha. Vagbhata mentions the position of Garbhashaya in Yoni's Tritriya Aavarta and its shape as Rohita Matsya Mukha, which has a confined mouth and a broader belly above, in Sharira Sthana.\cite{16,17}

The word Antargatphalama, which may be translated as ovary and fallopian tube, is referenced in the Sushruta Samhita. The ovaries are a pair of tiny organs that are found at the lateral walls of the pelvic cavity. The
creation of egg cells and the discharge of hormones are both handled by these organs. Ovulation is the process through which the egg cell is liberated. The cervix, or lower entrance of the uterus, and the Vagina can also be considered Aartavavahini dhamani since menstrual blood passes through them during women’s monthly periods. Two tubes connect the ovaries to the uterus and are known as the Fallopian tubes. When an ovum reaches maturity, the follicle and ovary walls burst, allowing the ovum to exit and enter the uterus.\[18\]

**Panchbhautik composition**

Because man is a microcosm of the cosmos, each human has the five fundamental components of Akasha, Vayu, Teja, Jala, and Prithvi, which are found in all matter. At the level of the female reproductive system, the substantial and tough structures such as the ovaries (female gonads); the uterine (fallopian) tubes, or oviducts; the uterus; the vagina; and external organs might be regarded Prithvi Mahabhuta’s qualities. The liquid part of the female reproductive system's cells, known as intracellular fluid, as well as secretions from the cervix, vagina, and other glands, can be regarded Jala Mahabhuta’s qualities.\[19\]

At the level of the female reproductive system, the fluid part of menstrual fluid, as well as the sustenance provided to ovum/fertilized ovum by the lining cells of the uterine tube and uterus, can be regarded qualities of Jala Mahabhuta. At the level of the female reproductive system, the Agni Mahabhuta may be thought of as the different metabolic processes occurring in the cell linings of the female reproductive tract. Secretions such as progesterone and estrogens (female sex hormones), for example, might be categorised as Agni Mahabhuta characteristics. Because movement is the function of Vayu Mahabhuta, the movement of sperm from vagina to uterus, various secretions from their respective organs, movement of menstrual fluid from uterus to vagina, and movement of ovum from ovaries to uterus may all be regarded under its control. Oogenesis, the process of cell division, can be regarded a function of Vayu Mahabhuta because Vayu Mahabhuta’s purpose is differentiation. Akasha Mahabhuta is responsible for the space inside numerous organs and the many pathways that allow secretions, sperm and ovum movement, and menstrual fluid to flow.\[20\]
Discussion

Ayurveda is a thoroughly practical discipline, all of the principles discussed in Ayurveda are either connected to the maintenance of a healthy individual’s health or the healing of certain ailments. In the same way, understanding physiology and pathology is critical for every medical discipline. Medicinal and health sciences can only be applied in the broadest sense; they cannot be purely theoretical in any way. This may be why, in recent years, contemporary medical disciplines have returned to the Ayurvedic approach to anatomy, stressing practical anatomy over theoretical anatomy. Srotas are described primarily in terms of functional anatomy, so that a single Srotas may readily represent the whole system. Garbhashaya and Artav vaha dhamani are the roots of artav-vaha Srotas. The organs of the female reproductive system include the ovaries (female gonads); the uterine (fallopian) tubes, or oviducts; the uterus; the vagina; and external organs, which are collectively called the vulva. Garbhashaya refers to the uterus or womb, which serves as a reservoir for artava (menstrual blood) in the endometrium until menstruation. Garbhashaya is located in the third whorl of the yoni (vagina) and has the shape of Rohita Matasya Mukhakruti, according to Acharya Sushruta (rohu fish). According to Acharya Dalhan, the aperture is small and the hollow is huge in size. Acharya Sushruta has given the position of Garbhashaya in relation with Basti and Pakwashaya. Grossly, this Basti can be taken as Bladder. Smaratpatra is found in the top region of the vagina, near the clitoris, which is a highly stimulated/erectile structure during sexual activity. In Ayurvedic texts, the word Yoni refers to both the overall reproductive system and particular parts. In this case, the Artava is formed under the effects of oestrogen and FSH. The pituitary and ovary, which release hormones, are also part of Artava vaha srotas. When menstruation occurs, artava flows from the uterine cavity and into the cervix and vagina. The Artava-vaha damani (passage), which is the root of artava-vaha srotas, also includes the uterine cavity, cervix, and vagina. Finally, we can refer to the entire female reproductive system as Artav vaha Srotas. In the physical world everything is a combination of Pancha Mahabhutas. The solid structures present in a female reproductive system are considered as the attributes of Prithvi Mahabhuta. The liquid portion present inside the cells lining
the female reproductive system, are considered as the attributes of Jala Mahabhuta. The process of movement of sperm from vagina to uterus, oogenesis are the attributes of Vayu Mahabhuta. [25]

Ayurvedic literatures provide the detailed views regarding the Panchabhautik relation of various physio-anatomical aspects of the female reproductive system.

**Conclusion:**

In Ayurveda, the fundamental aim of anatomy is to comprehend the structural relevance of treating a patient. Ayurveda explains the female reproductive system in terms of Artavavaha Srotas, which include fundamental components, physio-anatomy, and clinical disorders. It may be determined in two ways: macro and micro. It is the reproductive tract as a conducting point of view macro-scopically, and the capillary network of the uterus as a nutrition point of view microscopically. According to the Sushruta Samhita, the Yoni has four "whorls" that are shaped like a conch shell and each whorl signifies a portion of the female genital system. The Panchabhautik relationship of several physio-anatomical features of the female reproductive system are also discussed in detail in Ayurvedic literatures.

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