

INVOLVEMENT OF DOSHA, DHATU, UPDHATU AND AGNI IN FOLLICULAR DEVELOPMENT OVULATION AND IN MENSTRUATION: CRITICAL REVIEW

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ABSTRACT

Ayurveda, categorizes the body's constituents within three essential elements Dosha (tissue entities), Dhatu (biological entities), and Mala, or waste materials. (दोषधातुमलंमूलं हि शरीरम। वा सू १). The balance among these entities is crucial for longevity and healthy lives. In women when the Vatadi dosha and the Rasadi dhatu are in a balanced State then follicular development, ovulation and menstruation occur at the proper time and then there is less possibility of being AUB, anovulation, infertility, PCOD, tubal blockage and chances of repeated abortion etc. in brief there is a minimal risk of Artava vyapada and Yonivyapad as per ayurvedic view. In ancient times for balancing these Dosha and Dhatu, shodhan and shaman therapy were used. with the help of shodhan therapy the toxins were removed from their body and with shaman therapy the imbalanced dosha, dhatu's were brought into balanced, these Vatadi doshas also regulates the body's

agni (digestive/metabolic fire) and the formation and nourishment of the dhatus and upadhatu depend on different types of agni (Jatharagni, bhutagni and Dhatvagni).

पुष्पंतुजायतेयस्याःफलञ्चापिनविद्यते।तस्यदोषविकारञ्जज्ञात्वाकर्समारभेत्।।

(बा.त. 1/6)

This verse explains the importance of the Vatadi dosha and describes how the dosha are involved in nourishing and maturing the “pushpa,” that is ovum and finally the formation of the phala (progeny).

KEYWORD: Dosha, Dhatu, Updhatu, agni, artavavyapada, yonivyapada, shodhan and shaman.

INTRODUCTION

Dosha refers to the three fundamental biological energies that govern all physiological processes in the human body. Dhatu "bears" or "supports," the whole body, and these seven main Dhatu provide structure, growth, and nourishment to the whole body system. Every Dhatu has an Updhatu, or subunit, which coordination with dhatu support and strengthen the body, In our body Optimal tissue renewal is ensured by proper digestion (Agni) and eating habits, after complete digestion of food, dhatu formation starts. Three types of agni are mentioned in samhita. Jatharagni located at the level of grahni, (considered as digestive and metabolic function of small intestine) **Panchbhutagni** located at the level of yakrita (liver) and dhatu (tissue) **Dhatvagni** present at the level of Dhatus (at tissue and cellular level) The proper function of all these Agni are required for formation of normal rasa and rakta dhatu. In women, artava (female reproductive element) are considered the upadhatu of Rasa Dhatu and Rakta Dhatu. Any kind of imbalance in the Vatadi doshas due to unwholesome aahar vihar causes irregularities in the Rasa, rakta aadi dhatus which leads to irregular production of it's by-product like stanya and artava etc. and more formation of dhatumala, these dhatumala acts like toxins which helps in release of different inflammatory mediator in different tissues and organs by which inflammation in reproductive organs take place (oophoritis, salpingitis and endometritis, PID, e.t.c)

Vitiated dosha along with dhatumala (toxins) can cause ‘kha-vaigunyata’ in artav vahi srotas (obstruction in the fallopian tube) and its mula (garbhashya and artavavahi dhamni) which impaired the blood supply to endometrium, which disturbs both the formation and expulsion of artava (ovum and menstrual blood) due to its inflammatory response (may also prevent utero-placental blood flow if pregnancy occur), This means that both the formation of artava and its outward flow become impaired. Artava is described in three forms: Beeja-rupi Artava – the ovum, responsible for conception. Raj-rupi Artava – the menstrual blood. Upadhatu-rupi Artava – the form produced as an upadhatu from Rasa Dhatu and Rakta Dhatu and could be considered as hormones responsible for ovulation and menstruation.

AIMS AND OBJECTIVE

- 1 To understand the role of Dosha, Dhatu, updhātu in ovulation and menstruation.
- 2 To understand the role of Aahar and agni in maintaining normal rituchakra.

MATERIAL AND METHODS

all materials are taken from, Charak, Sushruta and Vagbhata Samhita, research journal and other contents are compiled from Ayurvedic literature, Sanskrita commentary and from articles.

Role of dosha dhatu and agni (jatharagni dhatvagni and bhutagni) in formation of Artava (Antah Pushpa rupi and vahya Pushpa rupi) The ingested food is carried to the stomach by Prana Vayu and Udana Vayu. In the stomach, Kledaka Kapha lubricates the food (provides unctuousness) and digestion is carried out mainly by Pachaka Pitta. During the process of digestion, Samana Vayu kindles the digestive fire (Jatharagni). The food after undergoing digestion by Jatharagni (digestive fire) in the grahni (gastrointestinal tract) are transformed into aahar rasa (nutritive essence). Rasagni converts these aahar rasa to first rasa dhatu. With the help of vyana vayu the Rasa dhatu is transported to all body organs, through the Rasa-vahi, Rakta vahi Srotas. Tissues metabolize the Rasa dhatu with help of Dhatvagni and Panchbhutagni according to their structure and needs. Thus to maintain a regular and healthy Rituchakra (menstrual cycle), the two main Dhatus — Rasa Dhatu and Rakta Dhatu — must be present in sufficient quality and quantity. A proper balance in these Dhatu ensures normal menstrual flow and reproductive health. Any deficiency may lead to scanty menses or oligomenorrhoea or hypomenorrhoea or amenorrhoea. Vitiation in these Dhatu, may lead to heavy menstruation polymenorrhoea, menorrhagia, irregular menstruation (Artavadushti or Aartavakshaya). Ayurvedic classical texts describe the specific characteristics of Shuddha Artava (pure menstrual blood). One of the most important features explained by different Acharya is its colour, which shows slight variations

Gunjaphala Sannibham – blackish-red

Padma – pinkish-red

Alakta Sannibham – brownish-red

Indragopa Sannibham – bright red

Shashaka asruk Pratimam – red

Ishat Krishna – slightly blackish

despite these variations, all are considered physiological colours of healthy menstrual blood. The odour is described as “Vigandha”, indicating absence of foul or abnormal smell additionally Shuddha Artava is not associated with: Arti – pain, Daha – burning sensation. The quantity of these according to Ayurvedic classical references is:

Rasa Dhatu –10 Anjali

Rakta Dhatu –9 Anjali

Ārtava (menstrual blood) – 4 Anjali.

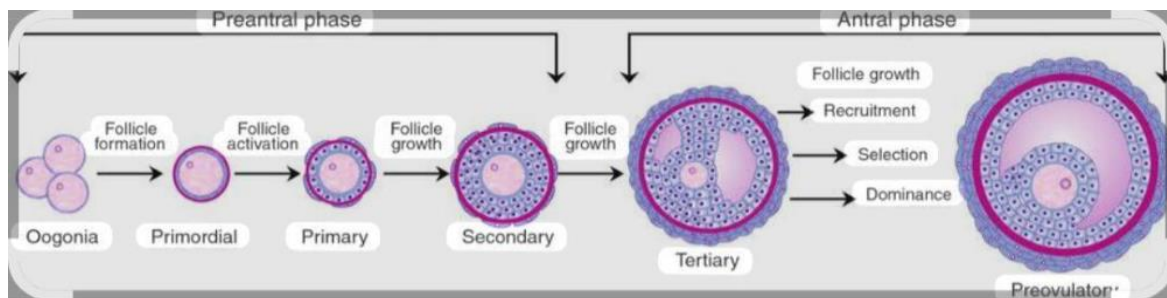
Role of Vatadi dosha in regulating HPO (Hypothalamus- pituitary- ovarian) axis and endometrial growth

“Prana Vayu, located in the brain, plays a key role in regulating the secretion of Gonadotropin-Releasing Hormone (GnRH). GnRH acts on the pituitary gland, leading to the secretion of FSH and LH. This process is regulated by Prana and Udana Vayu.” Through rasa and rakta these FSH and LH reaches to the ovary and follicular growth occur this process is under the control of dominated Kapha (graafian follicle growth)and Vata (granulosa cell proliferation) dosha. In uterus the proliferative phase starts in the endometrium and thickness increases mainly due to the kapha dosha, kapha is made up of Prithvi and Jal mahabhuta Prithvi is responsible for sanghanan (construction) and jal mahabhuta is responsible for secretary changes in endometrium after that kapha dosha decreases and pitta dosha increases under the influence of pachak pitta before ovulation due to its Agneya guna pitta digest the membrane of Graafian follicle which leads to ovulation after ovulation if there is fertilization then embryo are formed otherwise due to the effect of apana vayu those endometrium start shedding which leads to mensuration.

Role of all five types of vata in regulation of normal menstrual cycle

Prana Vayu, whose main seat is the brain, regulates the secretion of GnRH (Gonadotropin-Releasing Hormone). It also facilitates the release of FSH (Follicle Stimulating Hormone) and LH (Luteinizing Hormone) from the anterior pituitary. Udana Vayu transports the ingested food from the griva (throat) to the urh pradesh (thoracic region) After this, Samana Vayu aids in the digestion of food and divides it into the Sara (essence) and Kitta (waste) portions.” Vyana Vayu circulates the digested Ahara Rasa (nutritive essence) from the heart to the entire body through the Rasavahi (nutrient-carrying) and Raktavahi (blood-carrying) dhamni. It plays a vital role in nourishing all tissues and organs.” Through the action of Rasagni, dhatu and updhatu are formed.The Upadhatu Artava, nourishes the uterus through

artavavahi srotas or by fine Raja-vaha siras (stated by Acharya Kashyap and achrya vishwamitra). which is expelled through the vaginal passage by the action of Apana Vaayu. Artava (menstrual blood) is of two types — Bahihpushpa (external menstrual flow) and Antahpushpa (internal, conception-related Artava). Both types of Artava depend on a well-nourished Rasa Dhatu. The Antahpushpa Artava is aagneya in nature and plays a crucial role in the process of conception.” In each menstrual cycle several important changes occur in the primary follicle. The number of granulosa cells increases they undergo multiplication and the cells are arranged in a specific pattern, corona radiata is radially arrangement of granulosa cells and some granulosa cells form cumulus oophorus and finally primary follicle gets conver into a mature graffian follicle, before ovulation. This entire process—including the multiplication of Granulosa cells, their orderly arrangement, LH surge resumption of meiosis, and finally menstruation are controlled by apana vayu.



Role of each Dosha in Menstruation: Although all three dosha are present in every phase of the ovarian and uterine cycles, their predominance differs in each phase.

Kapha dosha: Dominant in the first half of the cycle (before ovulation) The main function of kapha dosha is Tarpan. (nourishment) In ovarian cycle kapha provides a Fluid-Filled Environment, The antrum is a fluid-filled space within the Graffian follicle that provides a specific environment for the developing oocyte. Facilitates Nutrient Exchange The fluid within the Antrum acts as a vehicle for the exchange of nutrients and the removal of waste products from the avascular compartment of the follicle. In uterine cycle in endometrium It is responsible for nourishment (poshana), growth, and buildup of endometrial tissues. The uterine endometrium thickens under the influence of Kapha to prepare for possible implantation. endometrium have glycogen and nutrients represents tarpak kapha which provides nutrition to incoming embryo. It provides moisture, stability, and thickness to the uterine wall.

Pitta Dosha: In ovarian cycle just before ovulation LH peak under the influence of ranjaka pitta heat are generated in body (thermogenic effect seen) which facilitates ovulation, peak level of Pachaka Pitta plays a key role in helping to complete the mechanism of ovulation. In secretory phase during implantation the chorionic villi invade into endometrium with the help of pachaka pitta, pitta dosha helps to maintain uteroplacental blood flow. In short the transformation, metabolism and enzymatic function represents function of pitta dosha. Responsible for hormonal activity, heat, and blood circulation. Governs ovulation and transformation processes. function of pitta is Metabolism, ovulation, and secretions. Pitta (especially Ranjaka and Sadhaka Pitta) contributes to blood formation and vascularity of the endometrium. It governs metabolism and hormonal regulation, aiding the transition from proliferative to secretory phase. In endometrium Provides warmth and nutrition essential for sustaining the newly formed endometrial cells.

Vata Dosha: In ovarian cycle the balance between Hypothalamus pituitary ovarian axis is monitored by vata dosha vata controls and monitored the recruitment growth and finally selection of dominant follicle anan vayu dominant during menstruation (Rajasrava period) mainly located in the pelvic region, helps in downward expulsion of menstrual blood. In uterus main function of vata dosha is Excretion or flow of menses downward and timely shedding, Vata helps in growth, shedding, and renewal of the endometrium.

When Doshas Become Imbalanced: Vata dosha may causes Irregular, scanty, painful menstruation. Pitta dosha may leads to Heavy bleeding, burning sensation during menstruation. Kapha dosha may also causes Delayed or scanty menstruation.

DISCUSSION

A Nutritious balanced diet produces high-quality Rasa Dhatu, which leads to the formation of superior-quality Artava. According to Acharya Kashyapa, this pure Artava nourishes the entire uterus through Rajas-vaha and Rakta-vaha siras (minute channels resembling fine hairs). This Artava is manifested at the end of each monthly cycle as menstruation (Ritu Strava). According to acharya kashyap A person can also be kept healthy only by proper diet.

नआहारसमंकिञ्चिद्वैषज्यमुपलभ्यते।

शक्यतेऽप्यअन्नमात्रेणनरं कर्तनिरामयम्॥

Through proper diet (Āhāra) and lifestyle (Vihāra), the Doṣa, Dhātu, and Agni in the body can be balanced, which leads to the attainment of shuddha Ārtava in both its internal (Antaḥ-

puṣparūpī) and external (Bāhya-puṣparūpī) forms. The menstrual cycle reflects the overall health of a woman.”

Opinion of different acharya

Raja is formed from the essence (Sara Bhaga) of Rasa Dhatu. However, there are differences of opinion among Ayurvedic scholars regarding its exact formation: Charaka, Sushruta, Dalhana, and Chakrapani state that Raja is formed directly from Rasa Dhatu. Vagbhata explains that rakta first accumulates in the uterus and is later expelled as Artava. Both descriptions essentially convey the same concept, because Rakta—whether in the form of tissue (Dhatu Rupa) or menstrual blood (artava)—is derived from Rasa. Thus, Sushruta and others describe the earlier stage of Raja formation, while Vagbhata explains the later stage, i.e., its excretion. Chakrapani clarifies this further by stating that: During the process of formation, Artava has a Saumya (cool, nourishing) nature due to the influence of Rasa Dhatu. At the time of excretion, due to specific physiological changes, Artava acquires an Agneya (hot) nature. This transformation occurs due to the influence of all three Doshas, similar to: Solid substances converting into fumes due to fire, or Arunadatta holds a different view, stating that Raja is formed from Ahararasa (nutrient fluid) rather than directly from Rasa Dhatu. Sharngadhara and Bhavamishra describe Raja as an Upadhatu (secondary tissue or by-product) of Rakta Dhatu. Raja (menstrual blood) is formed from Rasa Dhatu. When Rasa Dhatu is converted into Rakta, a part of this Rakta, known as Raja, reaches to uterus. This blood that accumulates in the uterus and is discharged for three days every month is called Artava.

CONCLUSION

A good coordination among Dosha, dhatu and agni represents normal GnRH secretions, normal ovarian Follicular development and normal menstruation. A good quality of rasa dhatu produces, superior quality of artava that is ovum and menstrual blood, Ayurvedic classical texts describe the specific characteristics of menstrual blood along with their physiological (Shuddha Artava) and pathological variations (Artava Dusti). These descriptions help in understanding and assessing the hormonal and reproductive status of women. Artava Dusti may manifest as menstrual abnormalities such as: Dysmenorrhoea. Amenorrhoea, oligomenorrhoea, Menorrhagia. It may also be associated with uterine and gynaecological disorders, including, Endometriosis, Adenomyosis, Uterine fibroids, These conditions can ultimately lead to infertility if left untreated. Shuddha Artava plays a crucial

role in maintaining a woman's healthy reproductive life, normal menstrual cycles, and fertility.

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