



ROLE OF ANATOMICAL COMPONENTS OF REPRODUCTIVE SYSTEM IN PATHOLOGY OF ASRIGDARA

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ABSTRACT

Asrigdara is a disease manifested as excessive bleeding per vagina during menstrual period, due to Pradirana (excessive excretion) of Raja (menstrual blood) it is named as Pradara and since there is Dirana of Asrik (menstrual blood) hence it is known as Asrigdara. To understand the pathogenesis of Asrigdara concept of Artava, Doshik predominance in different phase of menstrual cycle is necessary. Menstruation is shedding of endometrium following the withdrawal of oestrogen and progesterone subsequent to normal ovulatory cycle. This disease can be correlated with menorrhagia it is a symptom of some underlying pathology organic or functional, anatomical components of reproductive system due to congestion, increased surface area or hyperplasia of endometrium includes fibroid uterus, adenomyosis, pelvic endometriosis, chronic tubo-ovarian mass, tubercular endometritis, retroverted uterus, granulose cell tumour of the ovary etc., functional causes includes disturbances in HPO axis.

KEYWORDS: Artava, Asrik, Asrigdara, Pradara, Raja.

INTRODUCTION

A healthy woman lays the foundation of healthy family and society. In present scenario the disorders of menstruation is most common gynaecological complaint. *Asrigdara* affects the physical and psychological health of a woman which can even hamper her day to day life as well it is a curse for one who is working, the patients finally end up with debility and anaemia. It is characterised by *Pitta* and *Raktadushti* along with vitiation of *Apanavayu*^[1]. It became obvious *Asrigdara* refers to all types of irregular excess uterine bleeding however by the clinical symptoms it can be correlated with menorrhagia further this irregularity may lead to impairment in conception and affects the fertility of women.

Physio anatomical components in pathology of *Asrigdara*.

Menstruation is response of endometrium following the withdrawal of oestrogen and progesterone subsequent to normal ovulatory cycle.

1. Progesterone withdrawal causes shrinkage of tissue and spiral arteriolar vasoconstriction under the influence of PG (Prostaglandin) F_{2x} and endothelin leading to reduce blood flow.

- Specific vasoconstriction and relaxation of arterioles takes place leading to ischemia and reperfusion damage causes release of cytokines various metalloproteinases (MMP) are upregulated by falling of progesterone level, causing degradation of extracellular matrix (tissue break down).
- Progesterone withdrawal causes shrinkage of tissue and spiral arteriolar vasoconstriction under the influence of PGF_{2x} and endothelin leading to reduce blood flow.^[2]
- Specific vasoconstriction and relaxation of arterioles takes place leading to ischemia and reperfusion damage causes release of cytokines various metalloproteinases (MMP) are upregulated by falling progesterone level, causing degradation of extracellular matrix (tissue break down).^[3]
- Endometrial lysosomes get raised due to falling progesterone level, releases hydrolytic enzyme.
- Endometrial macrophages, polymorphs and granulated lymphocytes get increase greatly around the time of menstruation and influences vascular permeability and tissue breakdown.^[4]
- Mast of cell commonly degranulate around the onset of menstruation, releasing tryptase, chymase and several other molecules which influences endothelial and tissue integrity.^[5]

8. Cytokines (IL-8) released adjacent to blood vessels in the endometrium are chemotactic for leukocytes and influential to leukocyte migration to facilitate tissue breakdown, remodelling and repair.
9. Fibrin – platelet plugs appears within the superficial vessel. The balance between generation of coagulation factor and fibrinolysis, get shift towards fibrinolysis during menstruation.^[6]
10. Prolonged vasoconstriction, release of local growth factors and effect of increasing oestradiol terminates the blood loss and tissue repair.
11. Angiogenic growth factor, such as vascular endothelial growth factors involves in repair process by the stimulation cause by hypoxia, these are produced by migratory leukocytes in endometrium.^[7]

In these inflammatory responses; division, cell interaction, constriction and dilation are function related to *Vata* and enzymatic activity and inflammatory response is related to normal functioning of *Pitta*, if this balance get disturbed it causes disturbance in normal menstrual bleeding pattern. According to *Ayurveda* vitiated *Pitta* and *Vata* in uterus causes disease known as *Asrigdara* its sign and symptoms are very similar to Dysfunctional Uterine Bleeding (DUB). The pathology of DUB that is established by various modern tool and technique is very much similar to that of *Samprapti* of *Asrigdara* that was explained approx 2000 year ago.

DUB, According to european society of human reproduction and embryology is excessive bleeding (excessively, heavy, prolonged or frequent) of uterine origin which is not due to demonstrable pelvic disease, complication of pregnancy or systemic disease. It is of two types-

1. Anovulatory DUB: Disturbed HPO axis and unopposed oestrogen are found in this condition. Unopposed oestrogen has direct effect on the uterine blood supply by reducing vascular tone^[8] and possibly an indirect effect through inhibiting, inhibitory vasopressin^[9] release leading to vasodilation and increase blood flow. Unopposed oestrogen increases expression of Vascular Endothelial Growth Factors which may contribute to disturbed angiogenesis.

Endometrium exposed to prolonged unopposed oestrogen, synthesize less Prostaglandins and high proportion of PGE than PGF, increase synthesis of Nitric oxide (endothelium derived relaxing factor).

2. Ovulatory DUB: No disturbance of HPO axis and no hormonal imbalance is there. Main defect appears to be in the control of process regulating the volume of blood lost during menstrual breakdown of endometrium, primarily the process of vasoconstriction and haemostasis.

Reduced level of endothelin causes increase in blood volume. Endometrial PG release is greatly influenced by

circulating steroid level, increase in PG release and disproportionate rise of PG E2 causes vasodilatation and PG I 2 causes reduce platelet aggregation and increase fibrinolytic activities. Mast cell degranulate at menstruation, there is increase number of substances including heparin, which reduces fibrin formation and histamine which causes endothelial cell contraction, resulting in increase gap between the vascular endothelial cells and both transudation and blood cell loss.

Ayurvedic review^[10]

The woman who consumes excessive Lavana, Amla, Ushna, Vidahi (producing burning sensation) and unctuous substance, meat of domestic, aquatic and fatty animals, Krishara (made up with rice and pulses) Payasa (rice cooked with milk and sweetened) curd, Shukta (vinegar), Mastu (curd water) and vine, her aggravated Vayu, with holding Rakta (blood) which get vitiated due to above cause, increases its amount and then reaching Raja carrying vessels (branches of ovarian and uterine arteries) of the uterus, increases immediately the amount of Raja (Artava or menstrual blood) in other words the increase in amount of Raja is due to its mixture with increase blood. This increase in menstrual blood is due to relative more increase of Rasa, in this condition, excessive blood is discharged hence it is known as Pradara.

- Doshik disturbance by Nidana,
- Increase in Dravata of Rakta,
- Rakta Pramana Utkramana,
- Increase amount of Raja in Garbhashya.

From this pathology it can inferred that Chala^[11] Guna of Vayu along with Sara^[12] and Drava^[13] Guna of Pitta plays an important role in forming the basic Samprapti of *Asrigdara*. Chala Guna is for increase movement and Shara Guna disturbs stability and causes depletion of Dhatus (tissue).^[14] Drava Guna increases the liquid part of Dhatu.^[15]

Entire process of the development of the disease can be summaries in the following ways –Because of various causative factors Tridosha get vitiated and leads to Agni Mandya which leads to Rasagani Vaishamyia and this again leads Vikrita Rasa Dhatu formation.

Hence, the Artava i.e. Upadhatu of Rasa also get vitiated and Rakta, due to its Rasabhavata gets vitiated and increase in amount by the Pitta Prakopaka Nidan Sevan, the Rasa and Drava Guna of *Pitta* get vitiated. These factors affects the uterine vascular apparatus leading to uterine congestion and increasing uterine circulation along with this *Pittavrita Apana Vayu* and its *Chala Guna* leads to excessive and irregular bleeding which is termed as '*Asrigdara*'.

DISCUSSION

The changes at endometrial level are very similar in menorrhagia (due to DUB) to that of disturbed function of *Vata* and *Pitta* in case of *Asrigdara*. Increase fragility of vessel, decrease vasoconstriction and disturbed angiogenesis (vascular endothelial growth factors) are very similar to disturbed *Chala Guna* of *Vata* and defective haemostatic process, increase inflammatory response and increase volume of blood, unstable endometrium is similar to disturbed *Drava* and *Sara Guna* of *Pitta*. According to modern studies disturbed HPO axis, altered hormonal balance altered haemostatic process, altered vascular fragility, disturbed expression of vascular endothelial growth factor and various altered inflammatory mediator are cause of DUB.

CONCLUSION

In *Asrigdara*, Rakta Pramana Vriddhi in Rajovahi Sira of Garbhashaya leads to Raja Vriddhi (Uterine congestion) causes Atipravrat (excessive and prolonged bleeding) that is *Asrigdara*. Changes at endometrial level are very similar in menorrhagia.

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