AN AYURVEDIC OVERVIEW OF RAKTAPRADAR- A CONCEPTUAL APPROACH

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ABSTRACT

Reproductive capability in a young woman begins at the point of menarche, which is the beginning of cyclic uterine bleeding in the anatomically and physiologically normal female. Menarche marks the beginning of an important stage in a young woman's physical reproductive maturation and development. Even before the onset of this entirely natural but potentially disturbing function, a young woman’s early psychological reactions to menstruation, and probably also her lifelong view, can be influenced by the accuracy of her information and the degree of empathy with which this knowledge has been conveyed to her. Many women, perhaps appropriately, conclude that any departure from their personal menstrual experience is abnormal, and they will seek treatment for these departures. Conversely, some women accept or perhaps ignore even significant variations in their menstrual function, sometimes to the extent that serious health impairment occurs (e.g., severe iron-deficiency anemia). Therefore in this study an effort has been put forth to make a conceptual study covering almost all the aspect of Raktapradar as per Ayurvedic and modern.

KEYWORDS: Ayurveda, Menstruation, Raktapradar, Abnormal uterine bleeding.

INTRODUCTION

According to Indian philosophy, woman is considered to be superior to heaven as creation of a being takes place inside her womb. Women perpetuate the human race by creating and nourishing children. The health of family, society and culture that revolve around woman depends upon woman's health to a great extent. 

Acharya Charak mentioned that Garbha (new progeny) can be resides only in Suddha yoni. That is why Ayurveda has explained woman’s health in details and emphasized on all the preventive as well as curative measures to preserve it in the healthiest state. For this, different gynecological disorders are discussed vividly in Ayurvedic classics under the common headings of Yonivyapad and Artavavyapad. 

Raktapradar, the abnormal uterine bleeding, which is not found directly among twenty Yoni Vyapad and eight Artava Vyapad, is a common problem of the females specially in there productive age group; has got a detailed pathophysiology and treatment in the classical literature of Ayurveda. As the symptoms of Raktapradar, excessive excretion of menstrual blood, either in quantity or in duration, has been explained in Charaka Samhita and Madhava Nidan appears to be analogous to abnormal menstrual bleeding.

Abnormal uterine bleeding is defined as any variation from the normal menstrual cycle, and includes changes in regularity and frequency of menses, in duration of flow, or in amount of blood loss. It is a problem mostly prevalent in reproductive age group worldwide and affects quality of life. It has got different detrimental effects on individual and community.

Menorrhagia is essentially a symptom and not itself a disease. It affects 20-30% woman at sometime or other with significant adverse effect on the quality of life in terms of anaemia, cost of sanitary pads and interference in day-to-day activities. Several causes may prevail in a few cases, and attribute to excess bleeding. In excessive bleeding with regular cycle, H-P-O axis is intact, but endometrial changes get altered. It is observed that in these cases, PGI2 (prostacyclin), which is a vasodilator is increased as compared to PGF2a (carboprost) in endometrial tissue.

Almost all Ayurvedic classics emphasized the concept of Raktapradar which highlights the importance given to the subject. This study aimed at systematic compilation, analysis and interpretation of the concepts of Raktapradar with the contemporary science and understanding the
Nirma Narjary, Dipak Kumar Goswami. An Ayurvedic Overview of Raktapradar

concepts of abnormal uterine bleeding from an Ayurvedic perspective.

**AIM AND OBJECTIVE**

To study about the literary review of Raktapradar with Abnormal Uterine Bleeding in detail.

**MATERIAL AND METHOD**

This conceptual study is made after reviewing all the available Ayurvedic classics as well as modern book thoroughly.

**DESCRIPTION**

**Definition**

Menorrhagia is defined as cyclic bleeding at normal intervals which is either excessive in amount (>80ml) or duration (>7days) or both. (D.C. Dutta).

The term ‘Dysfunctional Uterine Bleeding’ was specifically used for when menorrhagia is not associated with any genital tract abnormalities, general or endocrinological disease.

In this case, hormonal imbalance is considered the root cause of hyperplasia of endometrium that causes menorrhagia. This often happens in anovulatory cycles with excessive or unopposed influence of oestrogen on the endometrium. In some cases, abnormal endometrial haemostasis is the cause of abnormal excessive bleeding.

**Ayurvedic View of the Disease Raktapradar**

It is the disease which is characterised by excessive loss of blood during menstruation. The disease has been termed Raktapradar, Pradar etc at different places. Besides, Asrigdara few other conditions such as Raktayoni, Raktaja artavadusti, Artava ativriddhi having excessive cyclical or a cyclical bleeding have also been described in Ayurvedic classics. While diagnosing the Asrigdar it has to be differentiated from this different condition.

**Definition**

The ancient view regarding the disease is given below. The definition of the word Raktapradar or Asrigdar were given by various author are given below.

1. Acharya Charak said that Pradar is a disease in which blood comes in excess amount.
2. Acharya Madhav opined that Asrik or Rakta when discharged in excess amount per vagina the disease is known as Asrigdar.
3. Acharya Vagbhatas opined that when blood either during or in intermenstrual period comes it is called as Asrigdara, Pradar or Raktayoni.
4. According to Dalhana, even less amount of blood can be seen during intermenstrual period or duration of intermenstrual period shortens, the disease is termed as Asrigdara.
5. According to Bhela when Shonita comes from wrong passages it is known as Pradara. It causes Shosa of female body.

It can be summarized that the disease in which the amount and or duration of bleeding increased or shortening of intermenstrual period occurs is known as Raktapradar or Asrigdara.

**Classification**

Acharya Charak, Madhav Nidan, Sarangadhara, Bhavaprakash and Yogaratnakar have classified Raktapradar into 4 types.

1) Vataja
2) Pittaja
3) Kaphaja
4) Sannipatataja

Acharya Sushruta has not given any classification. However commentator Dalhana who explained its clinical features has also explained that special clinical features of Raktapradara depend upon the physical character of blood which is identical to those described in the chapter of venesection.

Vagbhat has not given any classification. However in the treatment he has specially mentioned the recipies for Vataja, Pittaja and Kaphaja Asrigdara. Commentator Indu just like Dalhana has adjusted that the Asrigdara should be divided according to association of Doshas which is to be judged on the basis of features of blood described in venesection.

In other word commentator Dalhana classify the Asrigdara into 7 groups

1) Vataja
2) Pittaja
3) Kaphaja
4) Vatapittaja
5) Pittakaphaja
6) Vatakaphaja
7) Sannipatataja

**Nidan**

Acharya Madhav, Bhavamisra and Yogaratnakar have described only general etiology of all the types of Raktapradar. Maharishi Sushruta described there is only increased amount of blood loss during intermenstrual period in Raktapradar. Acharya Charak has stressed the importance of only dietic substance in the cause of this disease. Acharya Madhav has explained local contributory factors for the disease.

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General Etiology

The general causative factors of Asrigdara may be put forth in the following way in Table-1.

### Table 1: The General Causative Factors of Raktapradar

| Factors                           | Charak | BhavaPrakash | MadhavNidan | Yogaratkanar |
|-----------------------------------|--------|--------------|-------------|--------------|
| 1. Dietic Factors                |        |              |             |              |
| • Excessive use of Lavana (salty) | +      | -            | -           | -            |
| • Excessive use of acidic materials (Amla) | +      | -            | -           | -            |
| • Excessive use of Guru (heavy)   | +      | -            | -           | -            |
| • Excessive use of Katu           | +      | -            | -           | -            |
| • The substance which causes burning (hot) | +      | +            | +           | +            |
| • Meat of wild animal             | +      | -            | -           | -            |
| • Meat of aquatic animals         | +      | -            | -           | -            |
| • Oleo (Krusara)                  | +      | -            | -           | -            |
| • Rice cooked with milk (Payasa)  | +      | -            | -           | -            |
| • Curd (Dahi)                     | +      | -            | -           | -            |
| • Sukta                           | +      | -            | -           | -            |
| • Mastu                           | +      | -            | -           | -            |
| • Wine (Sura)                     | +      | -            | -           | -            |
| • Emaciation (Atikrisata)         | -      | +            | +           | +            |
| 2. Vihara                         |        |              |             |              |
| • Excessive travelling (Atiyana)  | +      | +            | +           | +            |
| • Excessive walking (Atimarga Gamana) | -      | +            | +           | +            |
| • Excessive weight lifting        | -      | +            | +           | +            |
| • Sleeping in daytime             | -      | +            | +           | +            |
| 3. Local factors                 |        |              |             |              |
| • Garbhasava (Abortion)           | -      | +            | +           | +            |
| • Atimaithun (Excessive coitus)   | -      | +            | +           | +            |
| 4. Psychological factors          |        |              |             |              |
| • Shoka (sorrow)                  | -      | +            | +           | +            |
| 5. General factors               |        |              |             |              |
| • Digestive disorders (Ajirna)    | -      | +            | +           | +            |
| • Injuries (Abhigatha)            | -      | +            | +           | +            |
| 6. Unknown etiology               |        |              |             |              |

Samprapti (Pathogenesis)

The Vayu getting aggravated due to above mentioned causes reaches Rajovahisiras of Garbhasaya (capillary bed of uterus). This increased amount of Rakta within the vessels (congestion) mixes with the Raja (menstrual blood). Naturally the amount of Raja increases suddenly, this increase in amount is mainly its Rasavaha (Plasma contents). This increased Raja when excreted during menstruation comes in excess amount.

The pathogenesis clearly shows that irrespective of etiology, the pathology takes place in Rajovaha siras or endometrial vessels, the factor even realized today. In DUB the main pathology lies in vascular apparatus (Jeffcoate, 1975).

Samanya Lakshana

Charak says that excessive vaginal bleeding during menstruation is the only symptom of Asrigdara[4]. According to Acharya Sushrut, there is body ache and pain present in all type of Asrigdar with excessive bleeding per vagina[5], Dalhan said in his commentary that burning sensation in lower portion of groin, pelvic region, back and flanks and severe pain in uterus as symptom present in Asrigdar[6] Vridha. Vagbhath has described excessive bleeding during menstrual or intermenstrual period as symptom of Raktapradar[7]. Bhava prakash, Madhav nidan and Yogaratnakar have described the same as in Sushruta samhita i.e, body ache and pain in Raktapradar.
Sadhya-Asadhyata (Prognosis)
Prognosis is bad in the cases of
- Sannipataja Raktapradar (accepted by all the Acharya).
- Continuous bleeding per vaginum
- Associated with thirst, Burning and fever etc.
- Less amount of blood in the body
- Weak ladies

Upadrava (Complication)
Acharya Susruta said when the patient is having excessive amount of bleeding per vaginum there is weakness, dizziness, unconsciousness, blurring of vision, thirst, burning sensations, delirium, anaemia, drowsiness and other Vatik disorders.

Same things are described by Madhava, Bhavamishra and Yogaratnakar. Acharya Charaka said that Raktapradar is also an aetiological factor of Sotha. This is a well known fact that continuous bleeding cause anaemia and oedema occurs due to anaemia.

Differential diagnosis of Raktapradar
- Pittaja yoniyapad- Menstrual blood is yellowish black in colour, excess in amount, hot, smell like dead body (Kunapagandhi) produce burning suppuration of the yoni and is associated with fever and heat. It maybe correlated to pyometra and early sign of endometrial carcinoma.
- Asrija yoniyapad- There is excessive bleeding per vagina even after conception.
- Adhoga raktapitta- There is excessive bleeding either through vagina, rectum or through urethra. This may be considered to be a cause of various bleeding disorder such as purpura, thrombocytopenia etc.
- Lohitakasara yoniyapad- There is insidious, sudden irregular bleeding. This can be correlated to cervical lesion like erosion, polyp, fibroid etc causing bleeding.
- Paripluta yoni vyapad- There is excessive bleeding with pain all over the pelvis. It occurs due to Dushti of Pitta and Rakta dosha. This condition can be correlated to chronic pelvic inflammatory disease.

Chikitsa Siddhanta (Principle of Treatment)
According to Charak[8], like Raktayoni, here in Raktapradar Raktasthambhak (hemostatic) drug should be used, on the basis of diagnosed Dosas by seeing the colour and smell of the blood. Treatment prescribed[9] for Vatala etc gynaecological disorders should also be used in respective Raktapradar.

The treatment[10] prescribed for Raktatisara (diarrhoea with blood) Raktapitta (bleeding diathesis), Raktaarsa (bleeding piles) Guhyaroga (diseases of reproductive system) and abortion is also useful in Raktapradar.

According to Dalhana[11] management of Raktapradara should be done in the line of Adhoga Raktapitta. According to Kashyap, purgation cures menstrual disorders. According to Chakrapani[12] the treatment of Raktapradar should be done in the line of management of Raktapitta.

Treatment
The treatment of Raktapradar depend upon the cause of bleeding and general condition of the patient, because the excessive bleeding per vagina lead to poor general condition and if general condition of patient is very poor, patient cannot tolerate vigorous treatment. So the aim of treatment is to control the bleeding immediately and remove the cause. While dealing the treatment of Yoniroga, Acharya Charak has specified the treatment according to predominance of Dosas.

- Vataja Yoniroga- Snehan, Swedana and Basti Chikitsa
- Pittaja Yoniroga- Use of Sheeta material with other treatment of Raktapitta to stop the bleeding
- Kaphaja Yoniroga- The hot and dry thing should be used.
- Sannipataja Yoniroga- Treatment should be given according to the predominance of Doshas or mixed therapy can be given.

Acharya Sushruta has mentioned in the treatment of Yoni Roga regarding Snehana and Basti according to Doshas, which is predominant.

The principles of treatment of Raktapradar can be divided into following types
- Nidan Parivarjanam
- Dosha Shodhan
- Dosha Shaman
- Rakta Shhapana

1. Nidan Parivarjanam- This is the main principle which include identification of cause and steps of its eradication.

2. Dosha Shodhan- It is very important part of Ayurvedic Chikitsa. Once Shodhan is done there is very remote chance of recurrence of disease. Normally the Shodhan Chikitsa is considered as use of Panchakarma Chikitsa with Purvarupa. But this therapeutic procedure is contraindicated in delicate women and weak person. The women suffering from Raktapradar usually become weak due to loss of vital substances mainly blood of the body. Naturally purifying measures are not prescribed. Another procedure termed as Lekhana Karma or curettage which is also a type
of cleansing measure has positive value in majority of the cases.

3. **Dosha Shaman** - In this process treatment is given according to predominance of Dosas. In other word it is a symptomatic treatment.

4. **Rakta Sthapana** - The treatment is given to stop the bleeding. Charak has mentioned a long list of drug for Raktaasthapan.

- Pushyanug Churna is one of the highly reputed drug for the treatment of Raktaapradar. Similarly Pradarantak Lauha, Prabal Bhasma, Dugdhapasana, Salmali and Laksha Churna can also be prescribed and is highly efficacious.

**Modern Causes**

The causes can be divided into:

- Pelvic-Uterine fibroid, Adenomyosis, Endometrial polyps, Pelvic infection including Chronic endometrial infection, Endometrial hyperplasia, Copper intrauterine contraceptive device, Uterine vascular malformation, Endometriosis
- Systemic-Coagulation disorder like Thrombocytopenia, Von Willebrand disease, Hypothyroidism, Hepatic, Renal and Cardiac disease.
- Iatrogenic-Person in Anticoagulation therapy, Intrauterine contraceptive device
- Functional-In 40-60% of women with Menorrhagia no underlying cause is found.

**Classification**

Abnormal uterine bleeding is of two types:

1. Anovulatory cycles (80%)
2. Ovulatory cycles (20%)

**Abnormal Uterine Bleeding (AUB) in the Reproductive Age**

FIGO (Federation of International of Gynecologists and Obstetricians) in 2011 came forward with the new nomenclature of AUB instead of dysfunctional uterine bleeding, and a new classification system to define its cause. This classification is named 'PALM-COEIN' system. It stands for Polyp, Adenomyosis, Leiomyoma, Malignancy and Coagulopathy, Ovarian dysfunction, Endometrial cause, Iatrogenic and Non-classified.

The first four are related to visually objective structural uterine abnormalities that can be measured visually with imaging modalities and by histopathological study. The others are non structural and attributed to coagulation disorders and hormonal dysfunction. N stands for no cause detected.

**Abnormal Uterine Bleeding in Premenopausal Women**

The menstrual cycles are painless as most cases are anovulatory cycles. One point to be emphasized here is that therapeutic D & C and endometrial study are important in premenopausal women to rule out endometrial carcinoma. In younger women, D & C is done when medical therapy fails. Instead of D & C, uterine aspiration or hysteroscopic biopsy is chosen by some to study the endometrial lining and to detect small polypi that can be missed on ultrasound and to diagnose tubercular endometritis.

**Metropathia Haemorrhagica**

It is a specialized form of anovulatory AUB, seen in women between 40 and 45 years. It is not related to parity. The symptoms are typical. The woman develops continuous painless vaginal bleeding, sometimes starting at the onset of menses, or preceded by 6–8 weeks of amenorrhoea. Occasionally, the woman reveals a history of menorrhagia prior to this. The uterus is slightly bulky. This condition may simulate abortion and ectopic pregnancy if amenorrhoea precedes bleeding, but pain is conspicuously absent.

**Chronic Anovulation and Dysfunctional Uterine Bleeding**

The state of chronic anovulation is the result of unopposed estrogen stimulation of the endometrium with consequent irregular breakdown and bleeding. Chronic anovulation syndrome is a “wastebasket” diagnosis for multiple endocrine etiologies.

Hyperthyroidism and hypothyroidism, hyperprolactinemia, hormone-producing ovarian tumors, and Cushing disease are all endocrine syndromes that can induce anovulation, but the primary etiology of DUB is chronic anovulation syndrome, often commonly described as the polycystic ovary or Stein-Leventhal’s syndrome. Any imbalance in hypothalamic pulsatile release of gonadotropin-releasing hormone (GrRH), in pituitary synthesis or release of follicle-stimulating hormone (FSH) or luteinizing hormone (LH), or in ovarian follicular production of E2, androgens, or progesterone can upset the delicate balances that induce cyclic ovulation and normal menstrual function. Exogenous androgen production in the adrenal glands and estrene production in adipose tissue produce identical clinical pictures.

**Abnormal Ovulation and Dysfunctional Uterine Bleeding**

Although the most frequent cause of DUB is anovulation, histologic studies consistently show that 15% to 20% of DUB patients have secretors endometrium, indicative of at least intermittent, if not regular, ovulation[3]. The differential diagnosis of abnormal bleeding with ovulation differs from that of anovulation. Ovulatory patients with abnormal
bleeding are more likely to have an underlying organic pathology and are not, therefore, true DUB patients by strict definition.

In addition to histologic confirmation of ovulation by the presence of secretor endometrium, ovulation can be documented by basal body temperature charting, urinary LH surge detection, or prospective hormonal evaluation.

**Diagnosis**

As Abnormal uterine bleeding is a diagnosis of exclusion, so a number of systemic, local reproductive and iatrogenic factor need to be ruled out. It is necessary to rule out a coagulation disorder in adolescent girl, pregnancy related bleeding in reproductive age group and malignancy in older women.

- Urine for pregnancy test should be done
- PAP Smear
- Routine blood examination and coagulation profile should be done
- USG of lower abdomen by transabdominal and transcervical route to rule out any pathology and to know the thickness of endometrium.
- Endometrial biopsy
- Endocrine study

**Pathophysiology**

The most common etiology for DUB is estrogen withdrawal or estrogen breakthrough bleeding in an anovulatory patient. In the absence of progesterone exposure to cause inhibition of DNA synthesis and mitosis, the estrogenic proliferative response causes stromal cell growth to exceed the structural integrity of its stromal matrix, and the endometrium breaks down with irregular bleeding. Unopposed estrogen results in vascular endometrial tissue with relatively scanty stroma, giving glands a back-to-back appearance. The endometrium is fragile and undergoes repetitive spontaneous breakdown. In the absence of normal control mechanisms to limit menstrual blood loss, bleeding can be prolonged and excessive. Other contributing factors are the lack of coordinated vasoconstriction and the release of lytic enzymes, which occurs in a normal progesterone-stimulated endometrium. The absence of progesterone stimulation of metalloendopeptidase increases endothelin-1 activity, which contributes to vasoconstriction. Lysosomal enzymes inappropriately released in the absence of progesterone stabilization of the lysosomal membrane further contribute to structural breakdown.

Hemostasis in a bleeding endometrium depend both on coagulation, with thrombus formation forming plugs in superficial blood vessels, and on vasoconstriction of spiral arterioles; generalized endometrial collapse with compression of bleeding vessels can also contribute. The lack of coordinated vasoconstriction and the irregular structural collapse lead to irregular and often heavy bleeding. The amount of bleeding correlates directly with the level of estrogen stimulation. Unopposed estrogen stimulation can, over time, induce a hyperplastic response in the proliferating endometrium.

**Treatment**

Specific treatment for Menorrhagia is based on a number of factor such as age, parity, medical and surgical history, drug sensitivity, severity, etiology, diagnosis and response of the patient. Treatment of abnormal uterine bleeding includes - medical treatment and surgical treatment.

**Medical Management**

1. **Hormonal**
   - Progestagens- Norethisterone, Medroxyprogesterone
   - Oestrogen-progestagen- combined oral contraceptive pill(COCP)
   - Levonorgestral releasing intrauterine system (LNG-IUS)
   - Oestrogen: Parenteral conjugated equine oestrogen for acute control
   - Androgen- Danazol
   - GnRH analogues

2. **Non hormonal**
   - NSAID(Non steroidal anti inflammatory drugs)- Mefenamic acid
   - Antifibrinolytic drugs- Tranexamic acid

3. **Selective oestrogen receptor modulators (SERMS)**
   - Clomiphene citrate
   - Centchroman

4. **Desmopressin**, a selective analogue of arginine vasopressin can cause rapid increase in Von willebrand factor and factor VIII

5. **Ethamsylate**
   Women with anovulatory cycle require therapy that includes a progestin. Regular, heavy menstrual bleeding can be successfully treated with both hormonal and non hormonal option.
   a. **Non hormonal**
      - Non steroidal anti inflammatory drug (NSAID)- Mefenamic acid
      - Antifibrinolytic drug- Tranexamic acid
   b. **Hormonal**
      - Combined hormonal contraceptive
      - Levonorgestral releasing intrauterine system
      - Oral progestin
      - Depot medroxyprogesterone acetate
      - Danazol
**Surgical Treatment**

1. Dilatation and curettage- in acute phase it is therapeutic as well as diagnostic.
2. Endometrial ablation by conventional resectoscope, microwave, bipolar electrodes, cryosurgery etc.
3. Hysterectomy (conventional or laparoscopic)

**DISCUSSION**

In Ayurveda Raktapradar can be correlated to Abnormal Uterine Bleeding. Acharya Charak explained Raktapradar as disease of vitiated Rakta and Pittaavrit Vata and Apan Vayu. Effect on Doshas are.

**Vata Dosha** - Vyan Vayu is responsible for alteration in the ratio of endometrial prostaglandin and disturbance in hypothalamus pituitary ovarian axis (H-P-O axis) to counteract above pathology Katu Rasa helps to normalize Vayu hence normalizing H-P-O axis and ratio of endometrial prostaglandin.

**Pitta Dosha** - Disturbance in endometrial blood vessel and capillaries may occur due to vitiation of Pitta Dosha. Drug having Sheeta Virya, Kashaya Rasa and Pittaguna properties help to normalize the Pitta Dosha, Rajovaha Srotas and normalizes the disturbance in endometrial blood vessels and capillaries. In the pathogenesis of Raktapradar, Chala Guna of Vata Dosha, Sara and Drava Guna of Pitta Dosha increases the amount of blood. Hence the drug example Vasa, Lodhra etc having Ruksha, Laghu Guna and Kashaya Rasa affect the Sara and Drava Guna of Pitta Dosha so these might be the reason in reducing the amount of bleeding.

**CONCLUSION**

The clinical condition of Raktapradar is more or less similar to Abnormal Uterine bleeding. Various treatment protocols mentioned in modern science like use of hormonal therapy, Antiprostaglandin, Antifibrinolytic drugs and surgical interventions are mentioned for treatment of abnormal uterine bleeding. Taking into account the adverse effect Ayurvedic intervention mentioned above can be recommended as safer, feasible and effective therapy for management of Raktapradar.

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