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An ayurvedic and contemporary overview of heavy menstrual bleeding: A conceptual approach

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Abstract

Heavy menstrual bleeding is the medical term for menstrual periods with abnormally heavy or prolonged bleeding. Although heavy menstrual bleeding is a common concern, most women don't experience blood loss severe enough to be defined as menorrhagia. The diseases *Asrigdara* explained in Ayurveda may correlated with condition heavy menstrual bleeding. According to Acharya Charak if the menstrual cycle turns to be abnormal due to *pradirana* (Excessive secretion) of *Raja*. It is termed as *Pradara*. According to acharya Sushruta, excessive and prolonged bleeding during menstruation or even in intermenstrual period, different from the features of normal menstrual blood is called *Asrigdara*. *Raktapradar* or abnormal uterine bleeding regular or irregular with alteration in amount or duration of menstrual loss, commonly implies to excessive regular menstrual bleeding or essential menorrhagia. Ayurvedic classics defined *Raktapradar* as excessive *Pradirana* (Secretion of *Raja*). Various treatments modalities like hormonal therapy, antiprostaglandins, antifibrinolytic agents and surgical interventions are available in modern medicine for the management of heavy menstrual bleeding. Taking into account the side effects and adverse effects, The Ayurvedic management mentioned above can be recommended as a safer, feasible and effective therapy for the management of heavy menstrual bleeding.

Keywords: Heavy menstrual bleeding, menorrhagia, pradirana, raja, asrigdara

Introduction

Human life is constantly influenced by the rhythmic phenomenon operating in this universe. The female menstrual cycle involves dramatic monthly hormonal changes affecting a woman's emotional and physical state. The menstrual cycle involves the shedding of endometrium. The Length of menstrual cycle is usually twenty eight to thirty days. A deviation of two to three days from the monthly rhythm is also quite common. The duration of bleeding is about five days and estimated blood loss is 20 to 60 ml^[1].

Heavy menstrual bleeding is the medical term for menstrual periods with abnormally heavy or prolonged bleeding. Although heavy menstrual bleeding is a common concern, most women don't experience blood loss severe enough to be defined as menorrhagia^[1]. International Federation of Gynaecology and Obstetrics (FIGO) Menstrual Disorders Working Group has proposed abandoning the use of one common term, dysfunctional uterine bleeding (DUB), while continuing to use the terms abnormal uterine bleeding (AUB) and heavy menstrual bleeding (HMB)^[2]. It affects 30% of women during their reproductive years^[3].

The diseases *Asrigdara* explained in Ayurveda may be correlated with condition heavy menstrual bleeding. According to Acharya Charak if the menstrual cycle turns to be abnormal due to *pradirana* (excessive secretion of) *Raja*., it is termed as *Pradara*^[4]. According to acharya Sushruta, excessive and prolonged bleeding during menstruation or even in intermenstrual period, different from the features of normal menstrual blood is called *Asrigdara*^[5]. *Raktapradar* or abnormal uterine bleeding regular or irregular with alteration in amount or duration of menstrual loss, commonly implies to excessive irregular menstrual bleeding or essential menorrhagia. Ayurvedic classics defined *Raktapradar* as excessive *Pradirana* (Secretion of *Raja*).

The *Nidan*s responsible for *asrigdara* as described by Acharya Charak are mostly *Pittavardhak*^[6]. Without the influence of *vata Dosh*a, *yon*i never gets vitiated so all the *yon*i *vyapadas* and *artav vyapadas* are because of *vata Dosh*a^[7]. The *Vayu* after getting vitiated increases the quantity of *Rakta* (blood), takes *Rakta* to *rajovaha siras* and increases the quantity of *raja* that comes out through *Rajovaha siras* and causes *Rakta Pradar*^[8].

The quantity of *Artava*, as per Acharya Charaka, says –'Naivati Bahu NatiAlpam'|*Artava* or

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menstrual blood expelled from the uterus through vagina in biological rhythm during the reproductive period i.e. from menarche to menopause.

Various conditions which resemble Menorrhagia are termed as follows in Ayurved Texts-

- *Pittaj Rajodushti*
- *Raktapradar*
- *Asruja Yonivyaapad*
- *Lohitkshara Yonivyaapad*
- *Asrigdar etc.*

According to modern concept, the abnormal bleeding is most likely due to some disturbance in endometrial blood vessels and capillaries, these are probably related with alteration in the ratio of endometrial prostaglandins, which are delicately balanced menstruation. This may be secondary to disturbance in hypothalamo-pituitary ovarian axis, to counteract on the above said pathology, there are effective formulae in Ayurveda which are non hormonal and without side effects.

Rationale for ayurvedic therapy

Various treatment modalities like hormonal therapy antiprostaglandis and antifibrinolytic agents are available in modern medicine. Many side effects have been observed, because of these medications, including hormonal imbalance. Keeping in mind the above facts. It was decided to select a herbal combination of Lodhra and Jaharmohra pishti for the management of heavy menstrual bleeding. Several studies were recorded and conducted regarding heavy menstrual bleeding and lodhra. As per Ayurvedic references the term *Lodhra* denotes the stem bark of *Symplocos racemosa* and considered as most useful remedy for uterine complaints, vaginal and menstrual disorders. In Sanskrit the name *Lodhra* means that it stops ocular discharges^[9]. *Jahar Mohra* is named as *Naga Pashana* in most of the classical text of *Ayurveda*^[10]. The present study focused on the effect of Lodhra and Jaharmohra pishti on heavy menstrual bleeding and its detailed mechanism of action.

Modern aspect of heavy menstrual bleeding

Heavy menstrual bleeding (HMB)

Heavy menstrual bleeding is the medical term for menstrual periods with abnormally heavy or prolonged bleeding. Although heavy menstrual bleeding is a common concern, most women don't experience blood loss severe enough to be defined as menorrhagia^[11].

Causes^[12]

In some cases, the cause of heavy menstrual bleeding is unknown, but a number of conditions may cause menorrhagia. Common causes include:

- Hormone imbalance. In a normal menstrual cycle, a balance between the hormones estrogen and progesterone regulates the buildup of the lining of the uterus (endometrium), which is shed during menstruation. If a hormone imbalance occurs, the endometrium develops in excess and eventually sheds by way of heavy menstrual bleeding.
- A number of conditions can cause hormone imbalances, including polycystic ovary syndrome (PCOS), obesity, insulin resistance and thyroid problems.
- Dysfunction of the ovaries. If your ovaries don't release an egg (ovulate) during a menstrual cycle (anovulation), your body doesn't produce the hormone progesterone, as it would during a normal menstrual cycle. This leads to hormone imbalance and may result in menorrhagia.

- Uterine fibroids. These noncancerous (benign) tumors of the uterus appear during your childbearing years. Uterine fibroids may cause heavier than normal or prolonged menstrual bleeding.
- Polyps. Small, benign growths on the lining of the uterus (uterine polyps) may cause heavy or prolonged menstrual bleeding.
- Adenomyosis. This condition occurs when glands from the endometrium become embedded in the uterine muscle, often causing heavy bleeding and painful periods.
- Intrauterine device (IUD). Menorrhagia is a well-known side effect of using a nonhormonal intrauterine device for birth control. Your doctor will help you plan for alternative management options.
- Pregnancy complications. A single, heavy, late period may be due to a miscarriage. Another cause of heavy bleeding during pregnancy includes an unusual location of the placenta, such as a low-lying placenta or placenta previa.
- Cancer. Uterine cancer and cervical cancer can cause excessive menstrual bleeding, especially if you are postmenopausal or have had an abnormal Pap test in the past.
- Inherited bleeding disorders. Some bleeding disorders — such as von Willebrand's disease, a condition in which an important blood-clotting factor is deficient or impaired — can cause abnormal menstrual bleeding.
- Medications. Certain medications, including anti-inflammatory medications, hormonal medications such as estrogen and progestins, and anticoagulants such as warfarin (Coumadin, Jantoven) or enoxaparin (Lovenox), can contribute to heavy or prolonged menstrual bleeding.
- Other medical conditions. A number of other medical conditions, including liver or kidney disease, may be associated with menorrhagia.

Symptoms^[13]

- Pale skin,
- Weakness
- Fatigue.
- Shortness of breath.
- Severe pain. Along with heavy menstrual bleeding, you might have painful menstrual cramps (Dysmenorrhea). Sometimes the cramps associated with menorrhagia are severe enough to require medical evaluation.
- Bleeding pattern:-
Soaking through one or more sanitary pads or tampons every hour for several consecutive hours
Needing to use double sanitary protection to control your menstrual flow
Needing to wake up to change sanitary protection during the night
Bleeding for longer than a week
Passing blood clots larger than a quarter
Restricting daily activities due to heavy menstrual flow
Vaginal bleeding so heavy it soaks at least one pad or tampon an hour for more than two hours
Bleeding between periods or irregular vaginal bleeding
Any vaginal bleeding after menopause

Risk factors^[12]

Risk factors vary with age and whether you have other medical conditions that may explain menorrhagia. In a normal cycle, the release of an egg from the ovaries stimulates the body's

production of progesterone, the female hormone most responsible for keeping periods regular. When no egg is released, insufficient progesterone can cause heavy menstrual bleeding.

Menorrhagia in adolescent girls is typically due to anovulation. Adolescent girls are especially prone to anovulatory cycles in the first year after their first menstrual period (menarche).

Menorrhagia in older reproductive-age women is typically due to uterine pathology, including fibroids, polyps and adenomyosis. However, other problems, such as uterine cancer, bleeding disorders, medication side effects and liver or kidney disease must be ruled out.

Complications ^[12]

Excessive or prolonged menstrual bleeding can lead to other medical conditions, including:

- **Anemia.** Menorrhagia can cause blood loss anemia by reducing the number of circulating red blood cells. The number of circulating red blood cells is measured by hemoglobin, a protein that enables red blood cells to carry oxygen to tissues.
- **Iron deficiency anemia** occurs as your body attempts to make up for the lost red blood cells by using your iron stores to make more hemoglobin, which can then carry oxygen on red blood cells. Menorrhagia may decrease iron levels enough to increase the risk of iron deficiency anemia.

Diagnosis ^[14]

- Ultrasound
- Endometrial biopsy
- Blood tests. A sample of blood for iron deficiency (anemia) and other conditions, such as thyroid disorders or blood-clotting abnormalities.

Based on the results of initial tests, following investigations may be recommended.

- Sonohysterography
- Hysteroscopy

Treatment ^[14]

Specific treatment for menorrhagia is based on a number of factors such as age, parity, medical/surgical history, drug sensitivity, severity, etiology, Diagnosis and response of the patients.

Medical therapy for menorrhagia may include

Nonsteroidal anti-inflammatory drugs (NSAIDs): NSAIDs, such as ibuprofen (Advil, Motrin IB, others) or naproxen sodium (Aleve), help reduce menstrual blood loss. NSAIDs have the added benefit of relieving painful menstrual cramps (dysmenorrhea).

Tranexamic acid: Helps reduce menstrual blood loss and only needs to be taken at the time of the bleeding.

Oral contraceptives: Apart from providing birth control, oral contraceptives can help regulate menstrual cycles and reduce episodes of excessive or prolonged menstrual bleeding.

Oral progesterone: The hormone progesterone can help correct hormone imbalance and reduce menorrhagia.

Hormonal IUD (Liletta, Mirena): This intrauterine device releases a type of progestin called levonorgestrel, which makes

the uterine lining thin and decreases menstrual blood flow and cramping.

Dilation and curettage (D&C): This procedure is common and often treats acute or active bleeding successfully, may need additional D&C procedures if menorrhagia recurs.

Uterine artery embolization: For women whose menorrhagia is caused by fibroids, the goal of this procedure is to shrink any fibroids in the uterus by blocking the uterine arteries and cutting off their blood supply. During uterine artery embolization, the surgeon passes a catheter through the large artery in the thigh (femoral artery) and guides it to your uterine arteries, where the blood vessel is injected with materials that decrease blood flow to the fibroid.

Focused ultrasound surgery: Similar to uterine artery embolization, focused ultrasound surgery treats bleeding caused by fibroids by shrinking the fibroids. This procedure uses ultrasound waves to destroy the fibroid tissue. There are no incisions required for this procedure.

Myomectomy: This procedure involves surgical removal of uterine fibroids. Depending on the size, number and location of the fibroids, your surgeon may choose to perform the myomectomy using open abdominal surgery, through several small incisions (laparoscopically), or through the vagina and cervix (hysteroscopically).

Endometrial ablation: This procedure involves destroying (ablating) the lining of uterus (endometrium). The procedure uses a laser, radiofrequency or heat applied to the endometrium to destroy the tissue.

After endometrial ablation, most women have much lighter periods. Pregnancy after endometrial ablation has many associated complications. If there is endometrial ablation, the use of reliable or permanent contraception until menopause is recommended.

Endometrial resection: This surgical procedure uses an electrosurgical wire loop to remove the lining of the uterus. Both endometrial ablation and endometrial resection benefit women who have very heavy menstrual bleeding. Pregnancy isn't recommended after this procedure.

Hysterectomy

Ayurvedic approach to heavy menstrual bleeding

Various references are mentioned in Ayurvedic texts, In Charak samhita it is mentioned as a separate diseases and explained its pathology and treatment in yonivyapad chikitsa.

In Sushrut Samhita, Asrigdara is explained as separate diseases in Shukrashonit adhyaya of sharirsthan. Ashtang Hridaya explained Asrugdara and Pradar as its synonyms.

Clinical features of asrigdara

A) Charak samhita

Charaka has mentioned only one symptoms that is presence of excessive bleeding during menstruation (cha. Chi. 30/208).

B) Sushrut samhita

Acharya sushruta says, when there is excessive amount of bleeding during menstruation associated symptoms like bodyache and lower abdomen pain is there. (su.sha. 2/18).

C) Vagbhata

Acharya Vagbhata has mentioned that excessive bleeding during menstrual or intermenstrual period is known as Asrigdara, Raktyoni or pradar (A.S Sha 1/11)

Differential diagnosis of asrigdara ^[23]

Asrugdara is compared with following conditions

- 1. Pittaj Yonivyapad:** Menstrual blood is yellowish black in colour, excess in amount, hot, smell like dead body (Kunup Gandhi) produce burning suppuration of the yoni (Vagina) associated with fever and heat.
In some Patients blackish discoloration of menstrual blood is seen, this black or brown color is because of the oxidation process ^[25]. Blackish discoloration blood before may also attribute to pelvic inflammatory disease ^[25].
Kunup gandhi means smell like dead body which can be correlated to payometra and early stage of endometrial carcinoma ^[24].
- 2. Asruja yonivyapad:** There is excessive bleeding per vaginum even after conception. This can be correlate to early abortion where excessive bleeding present.
- 3. Adhog raktpitta:** The excessive bleeding either through vagina, rectum or through urethra. This may be considered to be a cause of various Beeding disorders such as Purpura, thrombocytopenia etc.
- 4. Lohitkshara yonivyapad:** There is insidious, sudden, irregular bleeding. This can be correlated to cervical lesions like erosion, polyp, fibroids etc. causing insidious bleeding.
- 5. Paripluta Yonivyapad:** there is excessive bleeding with pain all over pelvis. It occurs due to dushti of Pitta and Rakta Dosha. This condition can correlated to chronic PID (pelvic inflammatory diseases)
- 6. Raktpradar:** There is excessive bleeding per vagina. It causes due to Pitta Vata pradhan tridoshas. This condition

can be correlated to DUB (dysfunction uterine bleeding)

Etiological factors for heavy menstrual bleeding according to ayurved

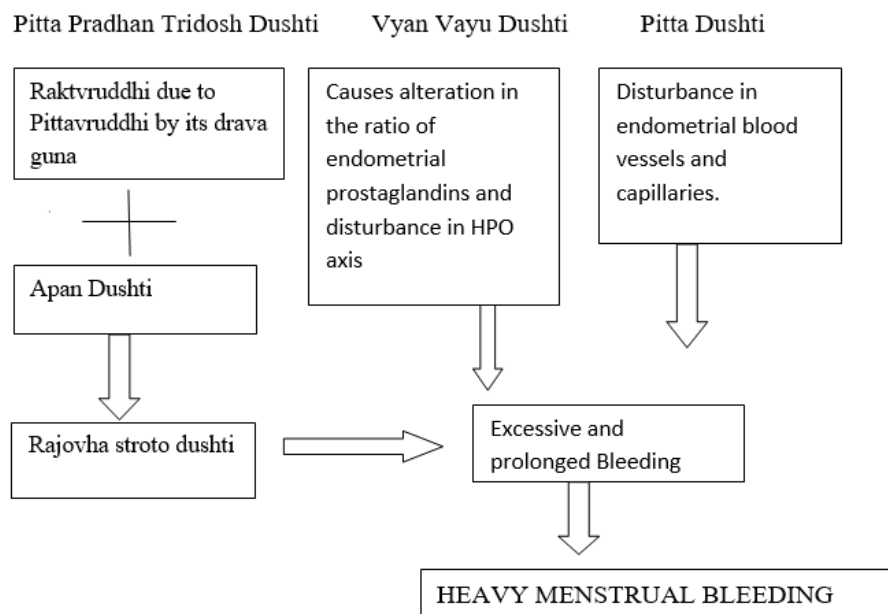
Acharya Charak have described following causes of Asrugdar in Charak Chikitsa Sthan 30 ^[24]

- The woman who consumes excessive sour, salty, heavy, katu, vidahi (producing burning sensation)
- Meat of domestic, aquatic, fatty animals
- Payasa (rice cooked with milk),
- curd,
- suktall (vinegar),
- mastu (curd water)
- Adhyashan- Taking meals before digestion of meal already taken.
- Virudhashan- Incompatible diet
- Abortion
- Excessive coitus
- Riding
- Weight lifting
- Trauma
- Day Sleeping

Samprampti of asrugdara

Acharya Charak explained asrigdara as a disease of vitiated Rakta and Pittaavrutta Apan Vayu. In Charak Chikitsasthan 30/202 it is mentioned that, Due to hetusevana tridosh mainly Pitta Vata and Rakta gets vitiated, Vitiated Rakta increases in amount and simultaneously raja gets increased in amount. Aggravated vayu with vitiated rakta reaches raja carrying vessels (menstrual blood) of uterus. Thus excessive raja comes out as heavy menses is called as Asrugdar.

Vyan vayu is responsible for alteration in the ratio of prostaglandins and disturbance in hypothalamopituitary axis. Disturbance in endometrial blood vessels and capillaries may occurs due to vitiation of pitta dosha which are responsible for heavy menstrual bleeding.



DUSHYA DOSHA- Vata –Apan, Vyan
DHATU- Ras Rakta

UPDHATU-Raja
DHATUMALA- Rasamal

Chikitsa-principal of treatment

From different texts of Ayurvedic literature we can conclude that *chikitsa of asrugdara* should be-

Pittashamak
Vatashamak
Raktsanghrahamatmak
Tikta rasatmak
Pachaniya

According to Sushrutacharya there are four measures for preventing excessive blood loss are as follows [15].

1. Sandhana 2. Skandana 3. Pachana 4. Dahan

1. Sandhan- wound healing is mainly done by *Kashay rasatmak dravyas* like *Lodhra, Udumber, Nyagrodh*.
2. Skandana-Skandan Karma means coagulation which is done by *dravyas* having *sheet virya* or *sheet guna pradhan dravyas*.
3. Pachan karma carried out with *Bhasma*.
4. Dahan Karma-By cauterization of blood vessels also proves efficient in controlling blood loss.

Management

By using above principle there are various drugs that can be useful for the management of heavy menstrual bleeding.

1. Sthanik chikitsa

Uttar basti (Intrauterine instillation of drug) to be given after 2-3 Asthapanbastis

- Ashok twak siddha ghrut uttarbasti 10 ml intrauterine
- Utarbasti and Basti given as per standard protocol.

2. Abhyantar Chikitsa (oral)

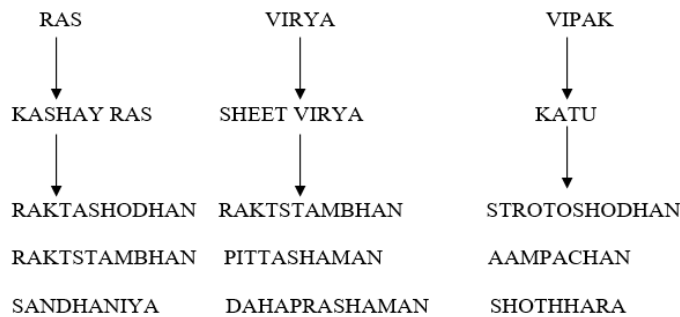
1. Powdered root of Bala with milk 40 ml twice a day. (Yogratnakar Pradar Chikitsa).
2. Ashok twak ksheerpan 40 ml twice a day
3. Lodhrachoonal gm + Nagkesharchoorna 1 gm + praval bhasma 250 mg to be taken with Rice water twice a day (Ayurved Prakash 57/58)
4. Lodhrachoorana 1 gm + Jaharmohrachurnapishti 250 mg (Cha. Su. 1/5) (Siddhayog Sangraha Jwaradhikar)
5. Pushyanug Churna with tandulodaka (rice water) ref-Charak samhita chikitsa sthan 30/90-96

Sampramti bhng of heavy menstrual bleeding

Most of the ingredients of above treatment contain *Kashay, Tikta ras; Laghu, Ruksh guna, sheet virya* properties, due to *Kashay, tikta ras* it has *Grahi* action so it is indicated in all bleeding conditions.

In the pathogenesis of *Asrigdara Chala guna* of *Vata dosha, Sara and dravya guna* of *pitta dosha* [16] increase the amount of blood. Hence these drugs might affect the *sara* and *dravya guna* of *pitta dosha* with the help of *Ruksha, laghu guna* and *Kashay ras* [17, 18] so this could be the reason in reducing the amount of bleeding. *Ruksha, laghu guna, kapha pitta shamak* and *shoshan* property helps in *strotoshodhan* [19].

Cholesterol is the precursor of all steroidal hormones, especially in female it is responsible for more production of oestrogen [20] *Kapha shamak* and *lekhniya karma* are probably carried out by *laghu* and *ruksha guna* of *lodhra* [2], therefore it decrease the production of oestrogen leading to reduced hyperplasia of endometrium.



In the pathogenesis of *Asrugdara, Chala guna* of *Vata, Sara & Drava Guna* of *Pitta* increases the amount of blood.

Hence these drugs might affect *Sara & Drava Guna* of *Pitta dosha* with the help of *Ruksha, Laghu Guna & Kashaya Rasa*.

↓
Decreases the amount of bleeding

Discussion

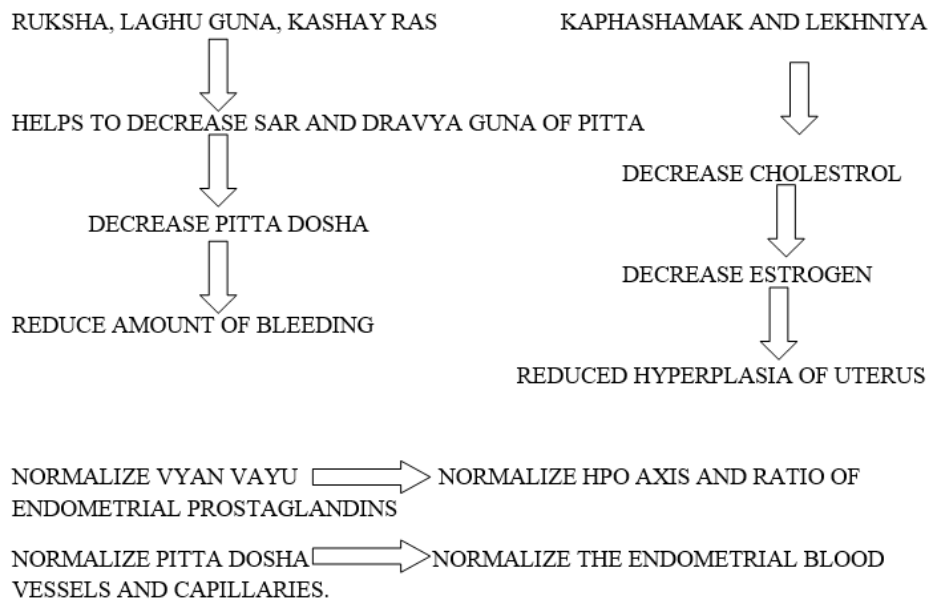
Heavy menstrual bleeding is the medical term for menstrual period with abnormal heavy or prolonged bleeding. In Ayurveda it can be co-relate with *Asrugdara*. Acharya Charak explained *Asrugdara* as diseases of vitiated *Rakta* and *Pittaavrutta Vata* and *Apan Vayu*. (cha.Chi 30/202). Effect on doshas:-

Vata dosha- Vyan Vayu is responsible for alteration in the ratio of endometrial prostaglandins and disturbance in hypothalamopituitary ovarian axis. to counteract above pathology *Katu ras* helps to normalize *vayu* and normalize hypothalamopituitary ovarian axis and normalize the ratio of endometrial prostaglandins.

Pitta dosha-Disturbance in endometrial blood vessels and

capillaries may occurs due to vitiation of *Pitta dosha*, *Lodhra jaharmohra* are having *sheet virya kashay ras* and *pittaghna* properties that helps to normalize *pitta dosha, Rajovaha strotas* and it normalize the disturbance in endometrial blood vessels and capillaries.

In the pathogenesis of *Asrigdara Chala guna* of *Vata dosha, Sara and dravya guna* of *pitta dosha* [16] increase the amount of blood. Hence these drugs might affect the *sara* and *dravya guna* of *pitta dosha* with the help of *Ruksha, laghu guna* and *Kashay ras* [17, 18] so this could be the reason in reducing the amount of bleeding. *Ruksha, laghu guna, kapha pitta shamak* and *shoshan* property helps in *strotoshodhan* [19].



Conclusion

Various treatments modalities like hormonal therapy, antiprostaglandins, antifibrinolytic agents and surgical interventions are available in modern medicine for the management of heavy menstrual bleeding. Taking into account the side effects and adverse effects, The Ayurvedic management mentioned above can be recommended as a safer, feasible and effective therapy for the management of heavy menstrual bleeding.

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