



AN AYURVEDIC PERSPECTIVE OF POLYCYSTIC OVARIAN SYNDROME (PCOS)

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ABSTRACT The polycystic ovarian syndrome is a common endocrine disorder affecting women in their reproductive age group. It was first time described by Stein and Leventhal in 1935 so called Stein and Leventhal syndrome. It is characterised by a combination of hyperandrogenism either clinical or biochemical, chronic anovulation and polycystic ovaries. It is frequently associated with insulin resistance and obesity. It is the best known and most extensively studied cause of an ovulatory infertility in the reproductive age women. In present era of globalization there has been a transient change in the life style to a more sedentary exercise over time, lack of physical exercise, stress, high caloric food and indiscriminate dietary habits. A medical intervention of polycystic ovarian syndrome includes hormonal therapies which have long term health consequences. Hence, researchers are looking for the Ayurvedic (Herbal) medicine for the treatment of PCOS in alternative medicine which do not causes any side effects.

KEYWORDS : Polycystic Ovarian Syndrome, Hyperandrogenism, Ayurveda

INTRODUCTION

The women is said to be three times more responsible in the procreation. She has to bear the responsibilities of reproduction and bringing up of children for which there is a need for disease free mind, body and in particular the healthy reproductive system.

Owing to complex structure and function of the female reproductive system, women are subject to large number complaints connected with menstruation and also fertility. Among that polycystic ovarian syndrome is one of the major burning issues which reflect as irregular menstruation, oligomenorrhoea, amenorrhoea, infertility, obesity, hirsutism, acne vulgaris.

The polycystic ovarian syndrome is a common endocrine disorder affecting women in their reproductive age group. It was first time described by Stein and Leventhal in 1935 so called Stein and Leventhal syndrome. It is characterised by a combination of hyperandrogenism either clinical or biochemical, chronic anovulation and polycystic ovaries. It is frequently associated with insulin resistance and obesity. It is the best known and most extensively studied cause of an ovulatory infertility in the reproductive age women.

In present era of globalization these has been a transient change in the life style to a more sedentary exercise over time, lack of physical exercise, stress, high caloric food and indiscriminate dietary habits.

A medical intervention of polycystic ovarian syndrome includes hormonal therapies which have long term health consequences. Hence, researchers are looking for the ayurvedic (Herbal) medicine for the treatment of PCOS in alternative medicine which do not causes any side effects.

Ayurveda with the main objective of स्वस्थस्य स्वास्थ्य रक्षणं आतुरस्य विकार प्रशमनम् | has to evolve as a main stream of medicine in combating such emerging health problems like PCOS without any adverse effect by competing with allied branches of evidence based medicines.

As per description in Charaka Samhita which states that whatever the knowledge of medicine that is available else where is included in Ayurveda and whatever that is not available in Ayurveda cannot be found elsewhere.

This verse conveys that, Ayurveda understands a disease based on the *Doshas* and *Dushyas* involved in disease manifestation but the specific nomenclature of the emerging diseases as such in not available as the other streams of medicine. This indicates that there is a description of emerging disorders in Ayurveda which are explained under various contexts which needs to be analysed based on the symptoms. It depends upon the *Yukti* of the physician to derive an exact correlation of the disease PCOS as per Ayurved parlance and arrive at a correct conclusion.

The conditions which are mentioned in various contexts in ayurvedic classics under various headings as *Artavkshaya*, *Anartava*,

Nastrartava, *Vyandya yonivyapad*, *Pushpaghni Jataharini*, *Shushkarevati Jataharini*, *Sthoulya*, *Prameha*, *Strotodushiti*, and *Santarpamothavyadhi* can be to some extent compared with the symptoms of PCOS which needs to be analysed as per ayurvedic parlance.

PCOS – Poly Cystic Ovarian Syndrome Summary According to Modern Science⁽¹⁾

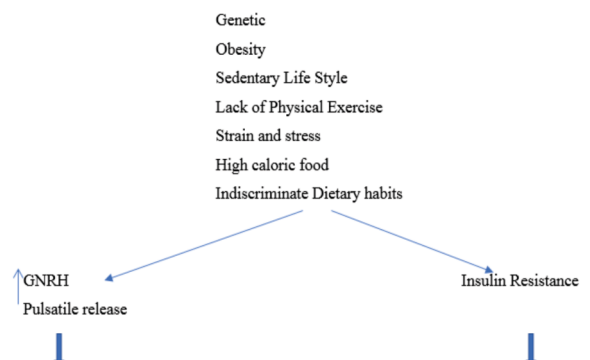
- Most common Gynaecological disorder.
- Prevalence 6-10%.
- One of the leading causes of female infertility.
- One of the leading reproductive, endocrine and metabolic disorder in the world.
- First time described by Stein and Leventhal in 1935 so called Stein and Leventhal syndrome.
- Poly means many/ multiple, cystic- abnormal sac containing fluid, Ovary- female gonads, Syndrome- group of multiple symptoms.
- Characterised by hyperandrogenism, anovulation, and polycystic ovaries.
- Frequently associated with insulin resistance and obesity.

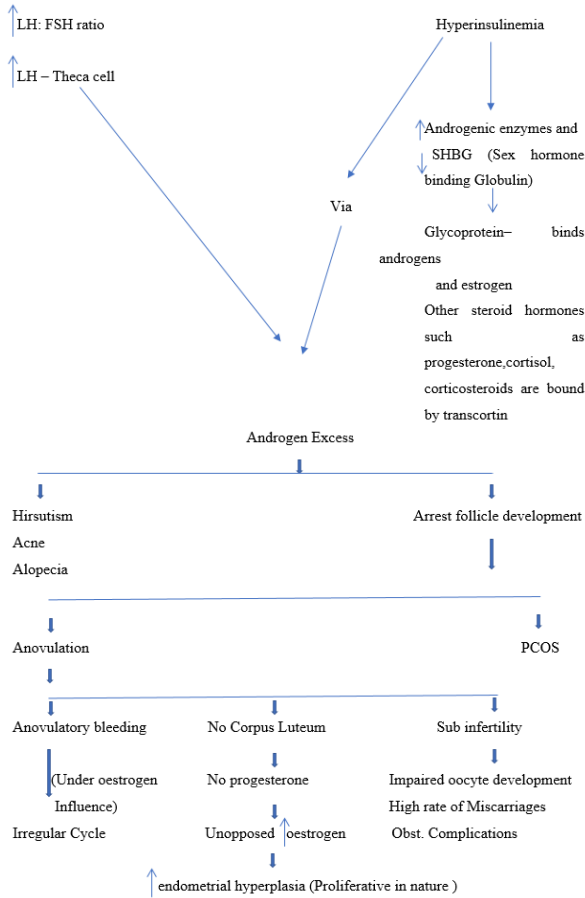
Diagnostic Criteria:-

- Increase in ovarian size
- No of cyst- 12 or more
- Size of cyst- 2 to 9 mm in diameter
- Ovarian volume 10 ml (10 cm³)
- Endometrium thickness 12 mm

Management PCOS:-

- Hormonal and Surgical Intervention (Laparoscopic ovarian diathermy LOD)
- Lowering of insulin level
- Restoration of fertility
- Treatment of Hirsutism and acne
- Restoration of regular menstruation
- Prevention of endometrial hyperplasia





Possible diseases which up to some extent compared to PCOS

1) Vandhya Yonivyapat

वंध्या नष्टार्तवा विद्यात । सु. उ. ३८/१०
 नष्टार्तवा- destruction of artavam
 भवत्यनिलवेदना- causing vatika types of pain

वंध्या निरार्तवा ज्ञेया । भा. प्र. चि. ७०/६, ७
 निरार्तव - Absence of artava

यदा हि यस्याः शोणिते गर्भाशय बीजभागः प्रदोषम आपद्यते, तदा वंध्या जनयति । च. शा. ४/३०

According to Charaka, while describing the beejanshudshti, there is a description that if a part of the beej responsible for the development of uterus and artava is defective, then the born child would be vyandhya.

Here Artava mean Antahpushpa/ streebeeja (ovum) and Nashtartava means Anovulation
 आर्तवं तु द्वित्री बिद्धात्मका ऋतौर्भवं आर्तवं ।
 मातृद्वित्रिबिंदुकावस्थं शोणितं ॥ अ. ह. सु. १/८
 आर्तवं तु चतुरस्रजली प्रमाणं । सु. शा. ३/५
 Here Artava mean Bahupushpa/ Raja/ Menstrual flow

नष्टार्तवः दौषैरावृत्तमार्गत्वात् । सु. शा. २/२३
 Nashtartava means- Amenorrhoea (It is secondary amenorrhoea which may revert back with medication or by reducing the predisposing factor)

Kaphadosha in an association of vata dosha causing margavrodha (i.e. obstruction in strotas). Hence, Anovulation and secondary amenorrhoea can be taken as one of the symptoms of PCOS (not merely the disease as such)

2) Artavakshaya

आर्तवक्षये यथोचितकालदर्शनमल्पता वा योनिवेदना च । सु. सु. १५/१२
 आर्तव- Menstrual flow

क्षय- Cease or to get reduced

The artavkshaya is a condition where in the menstruation does not appear in its appropriate time (यथोचितकालदर्शन) or is delayed or intermenstrual period is prolonged as well as (अल्पता) the quantity of menstrual flow is reduced or scanty and (योनिवेदना) menstruation is associated with pain.

Irregular and scanty menses is one of the symptom of PCOS.

3) Pushpaghni Jataharini

वृथा पुष्पं तु या नारी यथाकालं प्रणश्यति ।
 स्थूललोमशगण्डा वा पुष्पघ्नी साऽपि रेवति ॥
 का. कल्पस्थान रेवती कल्याध्याय ६

पुष्प- Artava (ovum)
 घ्नी- Destruction
 जात- Born
 हारीणी- Destruction
 वृथा पुष्पं- Destruction of pushpa (anovulatory cycles)
 यथाकालं प्रणश्यति- menstrual occur regularly
 स्थूल- obesity
 लोमशगण्डा- Hairy chin and cheek (Hirsutism)

so pushpaghni jataharini clarifies both hormonal imbalance and metabolic disturbances.

4) Granthi

सग्रन्थिः ग्रथनात्समृतः । अ. ह. उ. १/३

वातादयो मांसमसूकं च दुष्टाः सन्दुष्य मेदश्च कफानुविद्धम ।
 वृत्तन्नतं विग्रथितं तु शोफं कुर्वन्त्यतो ग्रन्थिरिति प्रदिष्टः ॥ सु. नि. ९/१३

Granthi is considered as round swelling or enlargement in any part of the body. It has been taken in due consideration basically because of the appearance of the cyst in the ovaries, which increase the volume of the ovary and gives it a swollen appearance.

Due to tridosha prakopaka ahara vihara which vitiates all the tridoshas, which in turn vitiates the Asruk, manas and medadhatu, with predominance of kapha dosha causing Khavaigunya at any particular part leads to the formation of vrutta, unnata, vigrathita shopha called Granthi.

Multiple cysts with a typical appearance of a “String of Pearls” or “Pearl Necklace”. These cysts are fluid filled sacs in the ovary which increases the volume of the ovary giving it a swollen appearance. These are the Hallmarks of PCOS.

5) Sthoulya (Santarpanotha Vyadhi)

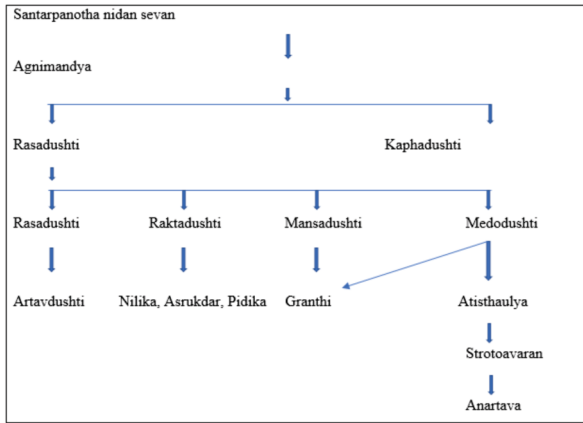
The cause and symptoms of polycystic ovarian syndrome finds its similarity with most of the santarpanotha vikaras Ch. Su. 23/4 It involves excessive indulgence in snigdha, madhura, guru, picchila ahara, navanna, nava madya, Anup and varija mamsa, gorasa, gudika, paistika preparation, chesta dveshi- lack of physical exercise, Diwaswapna- indulgence in excessive day sleep, shayyasanasukha-comfortable bed and seats suffers from diseases caused by over saturation.

Some of the santarpanotha vikaras include, prameha, pidaka, atisthoulya, gurugatrata, indriya strotasam lepa, aampradosha, buddhemoha and shopha, have relevance with some of the symptoms of PCOS.

Samprapti

Santarpanotha nidana sevana leads to Agnimandya (leads) → Agnimandya (leading) to ama annarasa → Dhatvagnimandya → Formation of dushtit Rasa dhatu (which circulates through the whole body) → due to madhurata and ati snigdha property of rasa dhatu, having close affinity to medadhatu → leading to ati sthoulya and

avarana to other strotas caused by kapha dosha → results into improper formation of dhatu.



Samprapti Ghatakas

- Agni-** Jatharagni and Dhatvagni
- Dosha-** Kapha and Vatta
- Dushya-** Rasa, Rakta, Mamsa, Meda, Asthi, Artavavaha, Rajovaha
- Strotas-** Rasavaha, Raktavaha, Mamsavaha, Medovaha, Asthivaha, Artavavaha
- Rogamarga-Adhithana-** Abhyantara
- Vyaktasthana-** Garbhashaya, Phalakosha
- Udbhavasthana-** Sarvasharir
- Dushtiprakar-** Amapakvashaya
- Sanga (obstruction), Atipravrutti (enhanced flow), Granthi (formation of nodules), Vimargagamana (flow of content in wrong direction)

1) Rasavaha strotodushti Lakshana

चित्यानां च अतिचितनात रसवाहिनी दुष्यन्ति । च. वि. ५/२३

24/9-12 like

- Asrugdar- Menorrhagia
- Neelika- Acanthosis Nigricans (discolouration, Hyperpigmentation)
- Pidika – Acne, pustular eruption

Above lakshana have relevance with the symptoms of PCOS

3) Mamsavaha strotodushti Lakshana

Hetu- Abhishyandi, Guruahara, Daysleep

Lakshana- Granthi i.e. appearance of cyst in USG is one among the main manifestation of PCOS.

4) Medovaha strotodushti Lakshana

Hetu- Lack of physical exercise, day sleep, excessive intake of fatty food and Alcoholic drinks - Cha. Vi. 5/16

Lakshana- Prameha purva roopa i.e. premonitory sign and symptoms of Prameha, Granthi (cyst) and Atisthaulya (obesity) have relevance with the symptoms of PCOS.

5) Asthivaha strotodushti Lakshana

Hetu- who indulges in food and drinks which cause the vitiation of vata constant suffer from asthivaha strotas.

Lakshana- keshlomasmashru dosha i.e. abnormality in hair, bodily hair, beard and moustache which indicates that it can be compared to hirsutism in PCOS.

6) Artavavaha strotodushti Lakshana

आर्तववहे द्वे तयोर्मूलं गर्भाशय आर्तववाहिन्यश्च धमन्यः।

तत्र विध्दायां वन्ध्यत्वं मैथुनासहिष्णुत्वमार्तवनाशश्च। सु. शा. १/२२

when the strotas is pierced at its moola it produces the symptoms as follows

- अल्पावर्तव – Oligomenorrhoea
- कष्टावर्तव – Dysmenorrhoea
- वन्ध्यता – Infertility
- मैथुनसहिष्णुता – Dyspareunia
- आर्तवनाश – Amenorrhoea

मिथ्याचरेण ताः स्त्रीणां प्रदुष्टेनार्तवेन च ।

जायन्ते बीजदोषात च दैवात च शृणुः ता पृथक्॥ च चि ३०/८

Mithyachara – Mithyaahara vihara

- Sedentary life style
 - Unhealthy food habits
 - Seal packed food
- } Impaired metabolism

Pradushta Artava-Ashtartav Dushti

Beeja dosha- Shukra and Streebeej Dushti

Daiva- unetiological cause/ it implies the effects of the sinful acts of the previous life.

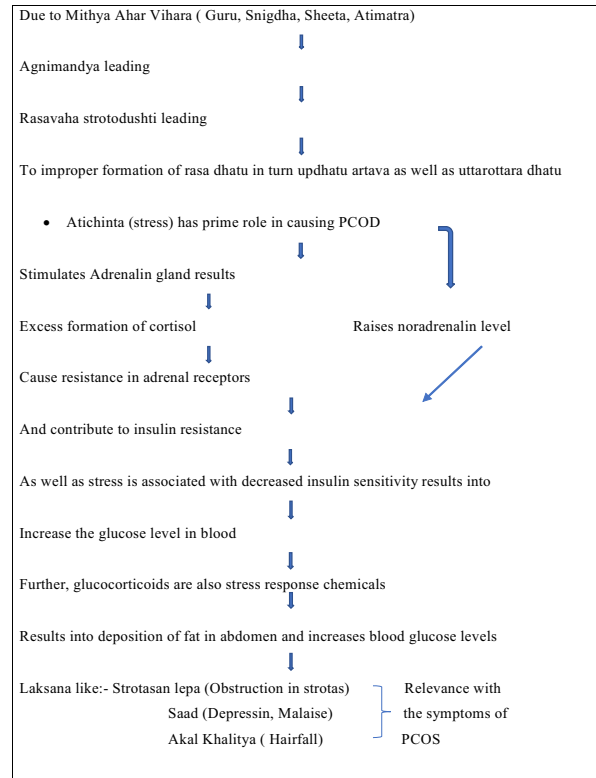
Beej Dushti- If a mother or father taking dosha prakopaka ahar vihara, there will be vitiation of shukra or shonita, leading to Dushta lakshana which may be carried to the offspring.

Also, the defect in garbhoptadaka bhava i.e. matruja, pitruja, rasaja, satwaja, satmyaja etc can also be carried on to the child and hence the same manifestation as in the parents.

Meda, mamsa, rakta, Hrudaya, yakruta, garbhashaya etc all of which are derived from matruja bhavas can be considered to be vitiated in this disease and the same is carried to the foetus which manifests in later life.

Also keshha, shmashru, shukra etc factors obtained from the parental side have have also been involved. This shows the possibility of genetic predisposition or the hereditary transfer of the disease.

The genetic predisposition acts as a utpadak nidana, where it may require the vyanjaka nidanas like kapha doshamedo dhatu pradohaka ahara and vihara to have a full blown up picture of a disease.



2) Raktavaha strotodushti Lakshana

Hetu- Those who indulge in food and drinks which are vidahi, snigdha, Ushana, liquids and also exposure to atapa and anil suffers from morbidity of Raktavaha strotasa.

Lakshanas- are mentioned in Cha. Vi. 5/14, Cha. Su. 28/8-15, Su. Su.

Role of Tridosha in Ovulation and Menstruation

A) Vata (Apana vayu, Vyana vayu)

Apana vayu is responsible for the evacuation of mala, mutra, shukra/ artava, garbha through adhomarga (Anulomana)

Vyan vayu is present all over the body and is responsible for the rakta stambhana, sweda and asruka stravana.

Contraction and relaxation of the uterus is also under the influence of apana and vyan vayu. Vata is also responsible for the movement of follicles, rupture of follicles, release of ovum and movement towards fimbriae.

B) Pitta

Responsible for the action of hormones which results into various stages of M.C. i.e. ovarian cycle.

C) Kapha

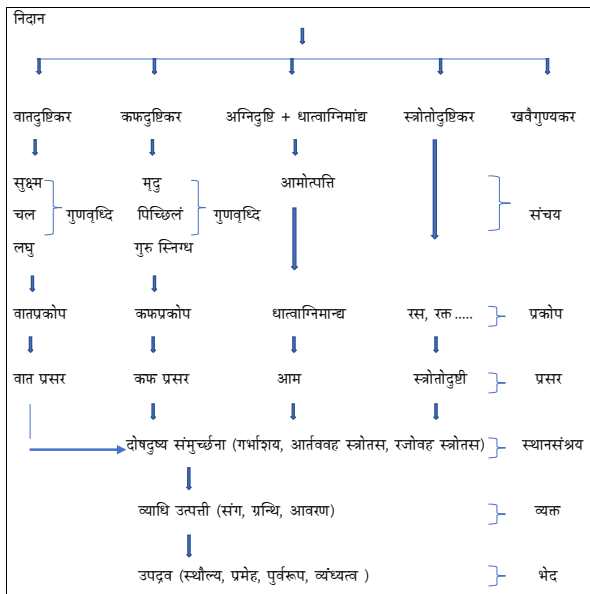
Responsible for the nourishment and development of the tissues that form and support the reproductive system including the growth of the follicles during ovarian cycles

Nidan-

Purvaroopo- irregular menstrual cycle, weight gain, mild ache, appearance of cystic ovaries

Samprapti- sanchay, prakopa, prasara, sthansamshraya, vyakti, Bhed.

Samprapti of PCOS from Ayurvedic view



Lakshana of PCOS from an Ayurvedic Perspective

- Includes Strotodushti lakshanas, Santarpanotha Nidan, Beeja Dushti
- 1) Prameha purvaroopo - kapha medo dushti- hyper insulinemia
 - 2) Strotasam lepa- the kapha and vatadosha causes avaranato the artavavaha strotas leading to obstruction which results in Amenorrhoea, oligomenorrhoea, Irregular menstrual cycle, under the influence of only oestrogen.
 - 3) Akala Khalitya- premature balding (higher level of androgens)
 - 4) Neelika (raktavaha stroto dushti lakshana) Darkening and thickening of the skin around the neck, groin, underarms or skin folds called Aconthosis Nigricans.
 - 5) Atyartava- long running amenorrhoea due to unopposed oestrogen which result in endometrial hyperplasia and occasionally when there is a menses it will be heavy and prolonged anovulatory bleeding.
 - 6) Keshlomasmashru dosha- this is the result of beejas dushti

Pitruja factor being transferred to the foetus in abnormal proportions leading to abnormal distribution of the loma or the smashru (usually not seen in females).

Excess insulin stimulates the ovary to produce large amount of the androgen which is taken to blood stream which result into reduction in SHBG (sex hormone binding globulin/ sex steroid binding globulin)

and increase in free testosterone which stimulates the hair follicle for excess hair growth.

Ayurvedic Approach of Treatment

Tridoshas represent a broad based generalization of the vital functions of the body, classified under three main headings i.e. vata, pitta and kapha. The equilibrium of doshas are mainly responsible for health, any derangement to this will lead to imbalance state disease.

Charaka has told that every disease can't be named so, vaidyas should know the disease condition according to the involvement of doshas, dhatus, and strotas etc. (cha. Su. 18/44)

Hence even if there is no direct mentioning of a disease in Ayurveda which is having direct correlation of a disease to modern disease, a detailed analysis of the lakshanas, the state of doshas, dhatus, agni, strotas etc will guide to formulate an ayurvedic management by understanding its symptoms or pathogenesis.

PCOS, the term itself indicates more than one symptoms and hence possibility for multisystem involvement with ovarian dysfunction.

According to doshic involvement, the treatment should be aimed at pacifying the vitiated kapha, making the vata anulomana and raise the guna of pitta. Bahudosha avastha is evident in PCOS, symptoms are multiple, so treatment include more than one as shodhan followed by shaman (as the absorption rate of drugs are increase after shodhana, thus shaman aushadhi are to be used later).

A) Samshodhan Chikitsa:-

Measure by which the waste products are thrown out is known as samshodhan.

Vaman- as kapha is the main dominating dosha Basti- for the anuloman of associated vata i.e.lekhan basti, madhutailik basti

सर्वा व्यापन्नयोनिं तु कर्मभिर्वमनादिभिः ॥४५॥
 मृदुभिः पञ्चभिर्नारी स्निग्धस्विन्नामुपाचरेद । सर्वः सुविशुद्धायाः शेषं कर्म विधीयते ॥४६॥
 नहि वातादृते योनिनारिणां संप्रदुष्यति ॥११५॥ शमयित्वा तं अन्यस्य कुर्यात् दोषस्य भैषजं ॥११६॥ च. चि. ३०/११५,११६

Vata is the main causative factor in manifestation of all types of yonivyapadas, so, it should be treated first.

Nidan parivarjan, Agni dipan, Pachan, Anuloman, use of Agneya dravya, Kaphaghna Dravya, Vataghna dravya, Artavajanana, Medohar, Shoothar, Pramehaghna, Kushthaghna, Vrushya, granthivilayan, Rasayan, Daivavyapashraya.

स्नेहस्वेदोपपन्न..... स प्रकृषितः प्रलापोन्मादहिक्का ।
 बिजोपघाततिमिर पुष्पोपघाताय संपदयते ॥ का. सि. ३/२०
 अल्पपुष्पनष्ट पुष्पनष्टबीजाकर्मण्यबीजपरीता अनुवास्या इति ॥ का. सि. ७/११
 प्रतिदोषं तु साध्यासु स्नेहादिक्रम इष्यते । दद्यादुत्तर्बस्तींश्च विशेषेण यथोदितान ॥२१॥
 शुक्रार्तवाद्यो दोषाः स्तनरोगाश्च कीर्तितः । क्लेब्यस्थानानि मुदस्य गर्भस्य विधिरेव च ॥३११॥
 गर्भिणी प्रतिरोगेषु चिकित्सा चाप्युदाहता । सर्वथा तां प्रयुंजीत योनिव्यापस्तु बुद्धिमान ॥३२॥ सु. उ. ३८
 बस्तभ्यंङ्गपरीषेक प्रलेप पिचुधारणम ॥४०॥ अ. स. उ. ३९
 मृदुभिरतीक्ष्णीर्वमनादिभिर्वमनविरेचन स्थापनस्त्रस्त्रावनस्यैः पञ्चभिः कर्मभिः ॥ अ. स. उ. ३९/४६,४७ इंदुटीका

B) Shaman Chikitsa:- It includes

- 1) Deepan - the drug which stimulates, strengthen jatharaagni and do not digest ama. Deepan drugs are agneya mahabhuta Pradhan, katu amla lavana rasatmak, laghu and tikshna gunatmaka, ushnaviryatmaka.
- 2) Pachan - the drugs which digest the ama by their ushna virya but do not stimulate jatharaagni. i.e. Mishreya, Shtpushpa, Nagkeshar, Hingvashtak churna.
- 3) Vatanuloman - the drugs which apakva mala, correct vitiated vatta dosha, facilitate easy evacuation of mala through anus. i.e. Haritaki, Aragwadha, chavya, Gandharvharitaki, etc.
- 4) Use of Agneya dravya-

आर्तवं तु आग्नेयम् ।

सु. शा. ३/३

आग्नेयानां च द्रव्यानां विधिवत् उपयोगः ।

दोषैरावृत्तमार्गत्वादातं नश्यति स्त्रियाः ॥२॥

तत्र मत्स्यकुलत्थाम्लतिलमाषसुरा हिताः ।

सु. शा. २/२१

Ushna virya, katu tikta rasa, katu vipaka, ushna ruksha tikshna guna, stimulates Agni there by clearing Ama dosha caused by kapha. Thus by initiating the proper function of Ahar rasa and updhatu artava. This also clears the Apanavayu aavarana and strotoshodhan, thus chala guna of apanavayu will be triggered which helps to inhibition of artava and help in regularization of menstruation.

- 5) Kaphaghna dravya- It acts by katu rasa (subside both pichchila and guruta qualities), tikta rasa (reduces kapha), Kashaya rasa (removes the Sneha of kapha) e.g. Dhanvayas, Vasa, Sahachar, Musta, etc.
- 6) Vatahar dravyas- it acts by Lavana rasa, Amla rasa, Madhura rasa. Lavana - it reduces Vimbadhatwa, sheetalatva, and Laghutwa of vata. Amla- Anulomana gati to vata. Madhur- vatashaman.
- 7) Atravajanjan
- 8) Medohar/ lekhaneya- Guggulu, Erand Dhanvayaas, etc are useful to reduce overweight and also cut on Granthi (ovarian cyst)
- 9) Shothahar- Rasna, Erand, Punarnava, Devdaru, etc are useful for reducing obesity and BMI
- 10) Pramehaghna- Vasa, Haritaki, Guduchi, Gokshur, Devdaru, Pippali, Guggul, etc. are useful to reduce obesity and hyperinsulinemia.
- 11) Kushthaghna- Vasa, Haritaki, Guduchi, Pippali, Guggulu, etc. acts by its katu, tikta rasa, Ushna Veerya to decrease the sign like Aconthosis Nigricans.
- 12) Rasayana (Rejuvenation)- revitalizes the cells and tissues of the body. i.e. Amalaki, Haritaki, Guduchi, Ashwagandha, Shatavari, Pippali, Guggulu, Bhallataka.
- 13) Vrushya/ Artavjanan- increases shukra in male and Artav in female. i.e. Ashwagandha, shatavari, Bala, Gokshur, which increases quantity and quality so useful in hypo, oligo, anovulation.
- 14) Daivavyapashraya chikitsa- Pushpaghni Jataharini considering as a aagantuj vyadhi, prime importance is given to the Daivavyapashraya chikitsa like varanbandhan (Kashyap Revati Kalpadhyay), Mantrachikitsa etc.

C) Sthanik Chikitsa- Uttar Basti, Yoni Pichu Dharan, Lepa

D) Kalpa-

- Maharasnadi Guggul/ Kwath
- Mahayograj Guggul
- Lashunadivati
- Shatapushpa- shatavari churna
- Kuberaaksha Vati
- Rajapravartani vati

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