

**Title:** Ayurvedic Management of PCOS vis -a- vis of Diabetes Mellitus**Authors:** Ramugade Divya Dhanaji*¹, Gharote Archana Prashant², Phatak Shruti Dilip³

1. Professor, Prasuti Tantra and Streerog Department, D.Y.Patil College of Ayurved, Nerul, Navi Mumbai, Maharashtra.
2. Professor, Rasashastra & Bhaishajya Kalpana Department, D.Y.Patil College of Ayurved, Nerul, Navi Mumbai, Maharashtra. Mobile no 8369522960
archana.gharote@dypatil.edu
3. Ph.D.Scholar, Kriya Sharir Department, Tilak Maharashtra Vidyapeeth, Pune, Maharashtra. Mobile no 9821750582 sdp129@rediffmail.com

***Corresponding Author:** Mobile no 9324446071 vedam06@yahoo.co.in**Abstract:**

Polycystic Ovarian Syndrome (PCOS) is a multifaceted problem with reproductive endocrine and metabolic dysfunction. Diabetes Mellitus is a clinical syndrome characterized by hyperglycaemia. The prevalence of this disease in general population is about 5-10% worldwide. Continuous indulging in abnormal diet & life style causes Kapha-dosha vrudhi (aggravation of Kapha) or Jatharagni mandya (weak digestive fire) is resulting in Ama-utpatti leads to PCOS. Therefore it has become essential to understand the etiopathogenesis and to study the basic principle of the treatment of PCOS. In this study, elementary books of Ayurveda and Modern were searched and analyzed for proper utilization in prevention and cure of PCOS. Thus, Ayurveda may play major role to cure PCOS.

Keyword: PCOS, Diabetes Mellitus, Agnimandya, Treatment.**Introduction:**

The objective of the present study entitled, "Ayurvedic Management of PCOS vis -a- vis of Diabetes Mellitus." elementary books of Ayurveda and Modern were searched and analyzed for proper utilization in prevention and cure of PCOS.

Aims and Objects:**Aim**

Literary study of Ayurvedic Management of PCOS vis -a- vis of Diabetes Mellitus.

Objectives

To study aetiopathogenesis & symptoms of PCOS.

To find out line of treatment of PCOS in Ayurveda texts.

Material and Methods

Ayurveda classics, modern literature, research journals were studied and effort was made to understand syndrome.

Conceptual study of PCOS - Modern Review

The term Polycystic Ovarian Syndrome (PCOS) was first described in 1935 by Stein and Leventhal as a syndrome manifested by 'Amenorrhoea', 'Obesity' and 'Hirsutism' associated with enlarged polycystic ovaries. This complex disorder is characterized by excessive androgen production by the ovaries/adrenals¹.

Incidence varies between 0.5-4 percent. It is prevalent in young reproductive period.

Clinical feature

1. Pt may present with feature of diabetes mellitus (insulin resistance)
2. Increase in obesity (abdominal-50%)
3. Menstrual abnormality(70%) in the form of Oligomenorrhoea, Amenorrhoea(Absence of menstruation),DUB(Disfunctional uterine bleeding)
4. Presence of hirsutism and acne(70%)
5. Acanthosis nigricans - it is due to insulin resistance skin is thickened and pigmented affected sites are nape of neck, inner thighs , groin and axilla.

Diabetes Mellitus

It is a clinical syndrome characterized by hyperglycaemia. Hyperinsulinemia is often associated with type 2 **diabetes**. Insulin is produced by your pancreas and helps regulate blood sugar. Hyperinsulinemia is a sign of an underlying problem. Hyperinsulinemia is most often caused by insulin resistance .It is a condition in which your body is resistant to the effects of insulin.

Polycystic ovary syndrome (PCOS) and the metabolic syndrome have many features in common particularly among women with the highest insulin levels and BMI. Hyperinsulinemia is a likely common pathogenetic factor for both PCOS and the metabolic syndrome².

Metabolic syndrome

High insulin levels are often associated with central obesity, cholesterol abnormalities, and high blood pressure (hypertension). When these disease processes occur together, it is called the metabolic syndrome³.

Insulin resistance

It doesn't happen overnight. When most of your diet includes empty calories and an abundance of quickly absorbed sugars, liquid calories, and carbohydrates like bread, pasta, rice, and potatoes, your cells slowly become resistant to the effects of insulin.

Your body increasingly demands more insulin to do the same job of keeping your blood sugar even. The higher your insulin levels are, the worse your insulin resistance. Your body starts to age and deteriorate. In fact, insulin resistance is the single most important phenomenon that leads to rapid, premature aging and all its resultant diseases, including heart disease, stroke, dementia, and cancer.

Aetiopathology:

Etiology is multifactorial -

1. Abnormality of HPO AXIS - Pituitary causes, Hypothalamic causes, Adrenal factor, Thyroid factor, General diseases, stress, Hyperprolactinemia.
2. Genetic inheritance
3. Hyperinsulinemia arising from receptor dysfunction
4. Adrenal/ ovarian hyperandrogenaemia

Pathophysiology

It is the complex multisystem disorder causing dysfunction of three inter related axes i.e. metabolic, steroidogenic and reproductive. Root causes of PCOS is hyperinsulinemia, it is result of following conditions. Possible effect of hyperinsulinemia on the HPO axis Effect of



hyperinsulinemia on the hypothalamus and pituitary.

Hyperinsulinemia → ↑GnRH from hypothalamus → ↑LH and ↓FSH from the pituitary → chronic anovulation. Effect of hyperinsulinemia on the ovary and liver, Increase insulin level creates estrogenic state in the body through the disturbance of ovarian and liver functions as follow.

Hyperinsulinemia → ↑the testosterone and androstenedione in the ovary and ↓the SHBG (steroidal hormone binding globulin) in the liver → ↑ the bio-availability of estrogen in the female body⁴.

Chronic stress and insulin resistance: It elevates cortisol, your main stress hormone. Increased cortisol levels elevate blood sugar and promote the accumulation of belly fat that very commonly seen in patients with insulin resistance or diabetes⁵.

Obesity and insulin resistance: It also induces insulin resistance and hyperinsulinaemia which in turn increases the gonadal androgen production.

Investigations - Clinical Diagnosis is mostly needed. Detail history is important. Treatment varies due to cause.

- General Examination is also important for assessment of nutritional status, extreme emaciation or marked obesity, presence of acne or hirsutes, discharge of milk from the breast.
- Internal examination reveals bilateral cystic ovaries.
- Weight and BMI (Normal BMI – 18.5 to 24).

Laboratory investigations

Sonography –TVS (transvaginal sonography)

Serum values - LH:FSH 1:1 is normal

It is high in PCOS - 2:1 and 3:1

SHBG Level Lower in PCOS

Raised fasting insulin level >25µ/ml in Insulin resistance.

Fasting G:I ratio (Fasting glucose to insulin ratio) >4.5 is normal. It High in PCOS.

Serum testosterone and DHEA-S >600mcg/dl is normal.

Laproscopy

TREATMENT - Weight reduction improves the metabolic syndrome and reproductive function⁶.

1. Management it depends upon the presenting symptoms
2. Management of hyperandrogenanaemia
 - A) Combined oral contraceptive pill
 - B) To correct hirsutism by correction of metabolic syndrome
- 3 In modern science only metformin is used to correct metabolic syndrome. it increases insulin sensitivity decreases weight BMI and reduces cholesterol blood pressure and the risk of developing diabetes
- 4 Ovulation induction and surgery (when patients desire pregnancy)

In modern science to correct metabolic syndrome only few medicine are available with lots of side effect but in *Ayurveda* many effective treatments are available with no side effect.

An allopathic medicine doesn't have cure, but their medicines to manage PCOS/PCOD leads to numerous side effects. If the intake of medicines is stopped PCOS/PCOD reoccurs. Root cause of the problem should be treated and allopathic medicine fails to do that.

Conceptual study of PCOS - Ayurvedic Review

According to *Kashyap*, *Vandhya* is called as *Pushpghni* i.e. having useless *pushpa* or menstruation (Unovulation i.e. No conception)⁷. Hyperandrogenism (hirsutism, acne and male pattern balding). Hirsutism or excessive body hair especially in female is given as a symptom of *pushpaghni jataharini* described by *Kashyapa*⁸. Menstrual irregularities



mentioned in context of *Anartava*, *Artavakshaya* and *Arajksa*. In all these conditions, menses is delayed or produced in less quantity. Anovulation can be compared to *vandya yoni vyapat*. “*Vandya nashtartavam vidyat*”. Here, we can interpret *artava* as ovum and consider *vandhya* as anovulatory menstrual cycle.

Nidana (causative factors) - PCOS is functional disorder of unclear aetiology and as such, is a diagnosis of exclusion with other androgen and ovulatory disorder of clearly defined aetiologies. We can correlate PCOS with *Vandhya Yonivyapada* and *Nashtartava*. As in our classics no specific etiology is described, so general causative factors for *Yonivyapada* can be considered as etiological factors⁹.

1. *Mithyachara*

Under this heading we can include *Mithyaahara* (faulty dietary habits) *Mithyavihar* (abnormal life style) both. In PCOS under the heading of abnormal diet we can include pizza, burger, bread, cold drinks, spicy, oily, junk food consumption. Abnormal life style may be faulty habits of sleep (*Diwaswapna*, *Ratrijagrana*), stress, competition pressure and other *Mansikbhawa*. We can see that all these are also causative factors for obesity, which play a very important role in appearance of this particular disease also.

2. *Pradushtartava* - The word *Aartva* should be regard for ovarian hormones.

3. *Bijadosha* - Various chromosomal and genetic abnormalities come under this heading.

4. *Daiva* - Unknown or idiopathic causes come under this heading. Each cause has its own causative process, potential and mode of action.

Veshesha Nidan

पुनरेषाम् अतिसंशोधन अतिशमन वेगधारण असात्स्य
अमनस्तापव्यायाम अनशनअतिमैथुनै
भवति इतिक्षयकारणानि पठन्ति | सु. सू. १५९ उल्लङ्घ
टीका

According to *Sushruta* -
Atisamshodhan, *Atisanshaman*, *Vega*

dharan, *Asatmyaanna*, *Manastap*,
Vyayama, *Anashan*, *Atimaitihuna*
Samprapti

Apatarpanotha Samprapti (Probable Pathogenesis of PCOS in lean patients)

The current unbalanced diet and lifestyle cause the vitiation of *Kaphadosha* which leads to *Jatharagni mandya*, thereby resulting in *Aamotpatti*. Which leads to *Dhatvagni Mandya* especially *Rasadhatwagnimandya* causes the formation of a *Saumya Gunatmak Poshak Rasadhatu* having qualitative and quantitative *Heen Saarata*. It also results in an increase in the *Mala Rupi Kapha* and consequently in the poor formation of the subsequent *Dhatus* further causing *Dhatukshaya*. Thus, *Dhatvagni mandya* and *Dhatukshaya* together cause *Anartava* or *Rajakshaya*.

Santarpanotha Samprapti (Probable Pathogenesis of PCOS in obese patients)

The above stated aetiological factors give rise to *Jatharagni* and *Dhatvagni Mandya* along with *Aamotpatti* resulting in *Medoroga* viz. *Sthaulya* (obesity). *Aamotpatti* and *Agnimandya* cause an improper nourishment of the consecutive *Dhatus*. *Artava*, being the *Saptam Dhatu* thus becomes *Ksheena* (under-nourished). The end result is once again *Artavakshaya* (anovulation).

Thus, it can be stated that *Kapha* predominance manifests as obesity, sub fertility, hirsutism, diabetic tendencies and hypothermia. *Pitta* predominance manifests as alopecia, acne, and severe menstrual irregularity.

Differential Diagnosis

Ayurveda describes Polycystic Ovarian Syndrome to have an equal involvement of the *Dosha*, *Dhatu* and *Upadhatu*. It does not correlate the condition to a single disease or syndrome but the symptoms bear a resemblance to the terminologies defined as '*Anartava*' (Amenorrhoea),

'Yonivyapad' (anatomical and physiological disorders of the reproductive system) like – *Arajaska* (Oligomenorrhoea due to vitiation of Vata Dosha), *Lohitakshaya* (Oligomenorrhoea due to vitiation of Vata-Pitta Doshas), *Vandhya* (infertile), *Pushpaghni Revati* (Idiosyncratic anovulatory menstruation), *Abeejata* (anovulation), *Rajodushti and Ashtartava Dushti* (menstrual flow disorder due to vitiation of Doshas) etc. We found the reference of metabolic involvement in PCOS in our classics i.e. *Acharya* says that due to monthly menses, as impurities are excreted from woman body constantly, hence, there is less chances of her to suffer from *Prameha*. It means if lady has normal menstruation then she has less chance to develop diabetes in later age because the diabetes is disease of forties at that age the menopause starts and PCOS is the disease of reproductive age. So the root cause of PCOS is obesity and hyperinsulinemia, that's why the main line of treatment of PCOS is to treat the *Agnimandya*¹⁰.

Ayurvedic Management Of Pcos

- Menstrual problems manifest due to aggravation of all *tridoshas* but mainly due to *apanavayu*.
- The management approach to PCOS should also concentrate on treating *Agnimandhya* at *Jatharagni* and *Dhatwagni* level and alleviating *srotavarodhana* and ultimately regularizing the *Apana Vata*.
- According to *Acharya Charak*, the treatment aims are not only radical removal of causative factors of Disease, but also restoration of *Doshas* Equilibrium.

All the causes of the disorder mentioned in Ayurveda include *Sanga* (obstruction) *Vata Sankshobha* and *Dhatukshaya*. Hence, the main *Chikitsa Siddhanta* (principle of treatment) for the problem should be the drugs by which the *Sanga* is removed. Thus the drugs that are *Vatashaman, Deepan, Pachan* and

Anulomana must be used on a priority basis. *Vagbhata charya* advocates *Basti* (enema), *Abhyanga* (oil massage), *Shirodhara* as the line of treatment.

Panchkarma modalities like *Vamana* (emesis), *Virechana* (purgation) are also prescribed for vitiated *Kapha* and *Pitta* respectively. *Snehana* (oleation) and *Swedana* (sudation) need to be given prior to any *Panchkarma*. This primarily includes selected *Panchkarma upakrama* (5 major treatment modalities) especially *Anuvasan* (enema with medicated oil), *Niruha* (enema with medicated decoction) are more beneficial in this condition.

Action of *Basti* is predominantly on *Vatadosha* and *Pakvashaya*. *Basti* cures all the diseases of *Vata*. *Sneha Basti* acts as catalyst in absorption of other drugs medicinal properties. *Basti* is targeted at regulating the *Apanavayu* it facilitates timely release of ovum and also good production of sperms. It may act on Anovulation. Use of *Basti (Enema)* is highly beneficial in Infertility¹¹.

Niruhabasti is like Nector to an infertile woman¹². The woman having Infertility either of the partners conceives after *Anuvasanbasti* means it is useful in both male and female partner¹³. The woman having Amnorrhoea, scanty menstruation, non-ovulation or useless ovulation (ovum with minimal or absence of capacity of fertilization) etc. causes of infertility should be prescribed *Anuvasanbasti*¹⁴. By use of *Basti Yoni* becomes healthy, even sterile woman conceives. The *Basti* is beneficial to woman having repeated abortion¹⁵. *Yapanabast* is performing both the action that is cleansing of *Niruha* and oleation of *Anuvasan*. By use of these, the infertile couple gets Progeny¹⁶. *Anuvasanabasti* is in *Beejadoshasambandhi Vandhyatva* (*Alpapushpa, Nashtapushpa, Nashtabeeja*). *Yapanabasti* perform both the actions of *Niruha (Shodhan)* and *Anuvasan (Snehan)* and hence it is very ideal in the treatment of infertility

By use of *Basti Yoni* becomes healthy, even sterile woman conceives. The *Basti* is



beneficial to woman having repeated abortion. *Shaman Chikitsa*. *Kashyapacharya* quotes the use of *Rasona* (*Alliumcepa*), *Shatapushpa* (*Anethumgraveolens*) and *Shatavari* (*Asparagusracemosus*) to be beneficial in all disorders of *Artava*. He advocates the utility of *Shatapushpa Kalpa* (a formulation of *Shatapushpa*) in the infertile woman to gain progeny. To correct hyperinsulinemia by using *Pramehghna* drugs like *Give Yakritotejak* drugs for the oestrogen clearance. Clear the *Avarana* by using *Vatakapha Nashaka* drugs for the proper follicular genesis and ovulation.

Discussions:

Ayurveda classifies PCOS is a *kapha* disorder. *Vata* is responsible for movement of follicle during ovarian cycle the rupture of the ovarian wall release the matured ovum to the movement of fimbriae the finger like projections that guide the ovum into fallopian tubes and movement of ovum towards the uterus.

दोषैरावृत्तमार्गत्वादार्तवं नश्यति स्त्रियाः सु.शा.२-२१

PCOS is due to *kapha* blocking *vata* and *pitta*. Hence *granthiadhara* [cystic swelling], *arbudha* [glandular swelling] [tumour formation]. *Apanavayudushti* or *margavarodhjanya* [obstructed channels and transformation process is suppressed]. *Apanavayu* in *artavavahasrota* becomes *sanga* or stagnant due to excessive *kapha* and *ama* accumulation blocks the channel impeding the flow of *vata* in the ovarian cycle. As *vata* is blocked, *pitta* is also blocked as well, *pitta* in order to act as the intelligence behind transformation needs the movement of *vata* in order for its energy to have potential. The accumulated *kapha* is expressed in formation of cyst in the ovary. By above mentioned Ayurvedic treatment, hyperinsulinemia may bring down which is allow spontaneous ovulation and prevents long term complications of PCOS.

Conclusion:

The objective of the present study entitled, "Ayurvedic Management Of PCOS vis -avis of Diabetes Mellitus. ' Elementary books of *Ayurveda* and Modern were searched and analyzed for proper utilization in prevention and cure of PCOS .By summarizing the whole work following conclusion .On the basis of Ayurvedic as well as Modern fundamentals after analyzing the above facts, Hyperinsulinemia appears to play a key pathogenic role in PCOS women. By above mentioned Ayurvedic treatment, hyperinsulinemia may bring down which is allow spontaneous ovulation and prevents long term complications of PCOS.

References:

1. D C DUTTA' S Text book of Gynaecology including contraception SIXH EDITION Edited by Hiralal konar :Thoroughly revised, enlarged and updated 6th Edition :2013
2. <https://academic.oup.com/jcem/article/91/1/48/2843248/Prevalence-and-Predictors-of-the-Metabolic>
3. https://www.google.co.in/search?q=hyperinsulinemia+causes&rlz=1C1AOHY_enIN708IN708&oq=hyperinsulinemia&aqs=chrome.4.69i57j0l5.13051j0j8&sourceid=chrome&ie=UTF-8
4. D C DUTTA' S Text book of Gynaecology including contraception SIXH EDITION Edited by Hiralal konar :Thoroughly revised, enlarged and updated 6th Edition
5. <http://drhyman.com/blog/2014/08/18/one-test-doctor-isnt-save-life/:2013>
6. D C DUTTA' S Text book of Gynaecology including



- contraception SIXH EDITION
Edited by Hiralal konar
:Thoroughly revised, enlarged and
updated 6th Edition :2013
7. KASHYAPA SAMHITA or
VRUDDHAJIVAKIYA TANTRA
by Prof.P.V.Tewari Edition 2002
published by Chaukhambha
Vishwanharti Varanasi, Kalpasthan
6/33, Page no.357
8. Acharya Kashyapa, Kashyapa
Samhita (Vidyotini Hindi
commentary), edited by Pandita
Hemraja Sharma,
Revatikalpadhyay-3, Chaukhamba
Sanskrit Sansthan, Varanasi, 2013;
192.
9. Charaka Samhita II, Comm. Shri
Satyanarayan Shastri with vidyotini
hindi commentary by Pt. Kashinath
Shastri & Dr.Gorakhnath
Chaturvedi, Published by
Chaukhamba Bharti Academy,
Varanasi, pp-841.
10. Acharya Sushruta, Sushruta
Samhita (Ayurveda-Tattva-
Samdipika vyakhya), edited by
Shastri Ambika Dutta, Nidana
Sthana - 6, Chaukhamba samskrit
samsthana, Varanasi, 2014; 326.
11. CHARAK SAMHITA Dwitiya
Bhag by Acharya Siddhinandan
Mishra Pratham Sanskaran 2009
published by Chaukhambha
Orientalia, Varanasi,Siddhisthana
1/34, Page no.-951
12. BHELA SAMHITA by
Dr.K.H.Krishnamurthy First Edition
2000 published by Chaukhambha
Vishwanharti,
Varanasi,Siddhisthana 6/31, Page
no.-553
13. BHELA SAMHITA by
Dr.K.H.Krishnamurthy First Edition
2000 published by Chaukhambha
Vishwanharti,
Varanasi,Siddhisthana 6/31, Page
no.-553
14. KASHYAPA SAMHITA or
VRUDDHAJIVAKIYA by
Prof.P.V.Tewari Edition 2002
Published by Chaukhambha
Vishwanharti,Varanasi,
Siddhisthana 7/11,Page no.-311
15. KASHYAPA SAMHITA or
VRUDDHAJIVAKIYA by
Prof.P.V.Tewari Edition 2002
Published by Chaukhambha
Vishwanharti,Varanasi,
Siddhisthana 1/39-42,Page no.-264
16. CHARAK SAMHITA Dwitiya
Bhag by Acharya Siddhinandan
Mishra Pratham Sanskaran 2009
published by Chaukhambha
Orientalia,
Varanasi,Siddhisthana12/20-22,
Page no.-1132



Cite article:

Ayurvedic Management of PCOS vis -a- vis of Diabetes Mellitus
Ramugade Divya Dhanaji, Gharote Archana Prashant, Phatak Shruti Dilip
Ayurlog: National Journal of Research in Ayurved Science-2018 6(3):