



ETIOPATHOGENESIS OF STROTAS INVOLVED AND AYURVEDIC APPROACH IN THE MANAGEMENT OF POLYCYSTIC OVARIAN SYNDROME (PCOS): A CONCEPTUAL STUDY.

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ABSTRACT

Polycystic Ovarian Syndrome (PCOS) is one of the most common metabolic and reproductive disorders found among 6-10% women population being in their reproductive age. The incidence of PCOS increases day by day due to the adverse effect of lifestyle of current scenario. The modern lifestyle imparting physical and mental stress causes pathological events like PCOS. The disorder involves *Vata* and *Kapha Doshas* along with *Rasavahastrotas*, *Raktavahastrotas*, *Manavahastrotas* and *Artavahastrotas* which eventually manifests features such as *Anarthava*, *Vadhyathwa*, *Pushpagani*, *Abeeja Rituchakara* along with *Meda*, *Mansa* and *Rakta Dhatus*. Modern management of PCOS is mainly targeted to correct biochemical abnormalities. Therefore, Ayurvedic formulations and methods from various Ayurvedic texts can be a better option for the definitive cure of PCOS. Hence an approach has been made to evaluate and understand the involvement of various *Strotas* and methods to approach the management of PCOS through Ayurveda.

Keywords: *Anarthava*, *Strotas*, PCOS.

INTRODUCTION

One of the endocrine and metabolic diseases that is currently seeing rapid growth is polycystic ovarian syndrome (PCOS). Insulin resistance and hyperandrogenism, which result in irregular menstruation, obesity, hirsutism, acanthosis nigricans, acne, enlarged ovaries with numerous cysts, and anovulation due to thickened tunica, are the main causes of PCOS. With a prevalence of 9.13%, PCOS is one of the most prevalent endocrine disorders among Indian girls.¹ High levels of insulin, excess androgen (male hormone), and LH (luteinizing hormone) are the main causes of PCOS, while the actual origin is unknown. Delayed Menstruation, Oligomenorrhea, and Acne, as well as hirsutism, thinning hair, obesity, and constipation, are signs of PCOS. Obesity, coronary artery disease, diabetes, atherosclerotic alterations, infertility, and coronary artery disease are some of the long-term negative effects of PCOS. And the short-term side effects are Oligomenorrhea, DUB, acne, thinning of hair. A hormonal imbalance known as PCOS causes the follicles that are impacted to remain in the ovary throughout the reproductive cycle. The trapped follicle develops as a cyst, which multiplies into several ovarian cysts with each ovarian cycle. The ovaries seem beaded due to these enlarged, fluid-filled follicles, which also result in hirsutism, an irregular menstrual cycle, etc. The changed and unhealthy diet and lifestyle, as well as factors including weight, heredity, daily routine, eating habits, sleep patterns, and mental health, are what lead to PCOD. This syndrome is typically found in females between the ages of 15 and 30. There is not a single condition listed in Ayurvedic literature that has a direct relationship to PCOS. This ailment is described in ayurveda as yonivyapada (genital diseases) and Artavadushti rather than as a single disease entity (menstrual disorders). NASHTAARTAVA, or loss of both menstruation and ovulation, is a symptom of PCOS². Disease is defined as "*Dosh Dushya sammurchhana janito vyadhi*" in Ayurvedic literature.³ Because of this, Nidana Panchaka and Dosha Dushya Sammurchhana are crucial for the Ayurvedic diagnosis of any condition. This article's goal is to help readers comprehend

all of the relevant strotas and how to manage PCOS with ayurveda.

ETIOPATHOGENESIS:

1. Insulin resistance
2. An increase in ovarian volume of 10 cm⁴
3. Numerous (>12), 2 to 9 mm-sized follicular cysts
4. Unbalanced hormones:
 - a. Increased LH (Luteinizing Hormone) or a ratio of LH to FSH greater than 2:1
 - c. Raised androgen level.
 - d. Raised oestrogen level.
 - e. Reduced Sex Hormone Binding Globulin (e) (SHBG)
 - f. Raised anti-Mullerian hormone (AMH)

SIGNS AND SYMPTOMS:

1. An irregular or amenorrhic cycle
2. Hirsutism, which is the overgrowth of facial hair
4. Overweight
4. Acanthosis, a thickening and darkening of the skin, particularly on the neck, thighs, axilla, and groyne.
5. Acne
6. Infertility⁵

COMPLICATIONS:

1. Diabetic nephropathy
2. Endometrial cancer
3. Cardiovascular and hypertension illnesses
4. Sleep Apnea⁶

DIFFERENTIAL DIAGNOSIS:

Some endocrine disorders have symptoms that are similar to PCOS.

1. Cushing disease
2. Congenital Adrenal Hyperplasia
3. Tumor of Adrenal gland
4. Tumor of Ovary

Ayurvedic perspective of PCOS

For diagnosis of PCOS by Ayurvedic point of view, we just have to see:

- 1) Diseases which can correlate with PCOS
- 2) Dosha and Dushya which are involved in PCOS
- 3) Srotas involved in PCOS
- 4) Nidana Panchaka of PCOS

Diseases that can correlate with PCOS:

Vandhya Yonivyapada

Sushruta describes *Vandhya Yonivyapada* as a condition when both amenorrhea and anovulation are present, or *Nashtartava*. The main cause is the obstruction of the *artavavaha Srotas* by *vata* and *kapha*. *Chakrapani* claims that *Vandhya* is thought to have a congenital abnormality called *bijamsh dushti*. Menstrual and ovulatory components of the condition are discussed in *Vandhya Yonivyapada*, but additional signs and symptoms are not included. Therefore, this can be viewed as a single disease symptom rather than the entire disease⁷.

Arajaska Yonivyapada

According to *Charaka*, *Pitta*, which is found in the vaginal system, and the uterus vitiate the blood, causing amenorrhea as well as skin discoloration and acute anorexia.⁸

Lohitkshaya Yonivyapada

Rajaksheenata, or scanty menses, along with burning feeling, emaciation, and discoloration are all symptoms of this ailment, which is brought on by vitiation of the *Vata* and *Pitta doshas*. *Rajaksheenata* might manifest as secondary amenorrhea, irregular or sparse menses, or both.⁹

Artava kshaya

In the case of *artava kshaya*, menstruation does not occur throughout the normal cycle. *Sushruta* claims that *Artava kshaya* has three symptoms.

- A. *Yathochit kala adarshanam*, or erratic menstruation
- B. *Alpata*, or scanty menstruation
- C. Dysmenorrhea, often known as *Yoni vedana*, is a symptom of PCOS¹⁰

Anartava

Anartava literally means amenorrhea. According to *Ashtanga Sangraha*, aggravated *vata* and *kapha dosha* obstruct orifices of channels carrying *Artava* i.e., *Artavavaha Srotas* which results in absence of menstruation. Here also says that it's not a "*Sarvatha kshaya*" of *Artava* but decrease in *Artava*. Amenorrhea in PCOS is the secondary amenorrhea which may revert back or occasionally menstruation is regained back with medication or by reducing the predisposing factors. This fills in exactly to the criteria of '*Na Tu Sarvatha Kshaya Eti*' i.e., not the complete

absence. Hence, *Anartava* can be considered as the symptom of the disease and not merely the disease as such.¹¹

Nashtartava

The root word for *anartava* is amenorrhea. According to *Ashtanga Sangraha*, menstruation is absent because exacerbated *vata* and *kapha dosha* block orifices of channels conveying *artava*, called *Artavavaha Srotas*. Additionally, it states that the decline in *Artava* is not a "*Sarvatha kshaya*" of *Artava*. PCOS-related amenorrhea is secondary amenorrhea, which can occasionally return or be treated with medicine or by minimizing the risk factors. This precisely meets the '*Na Tu Sarvatha Kshaya Eti*' requirement, i.e., there is no total absence. *Anartava* can therefore be viewed as the disease's symptom rather than just the illness itself.¹²

Pushpaghni Jataharini

Pushpaghni Jataharini explained by *Kashyap* and having typical clinical features of PCOS like:

- A. *Vrutha Pushpa*: Refers to anovulatory cycle.
- B. *Sthoola*: Refers to obesity.
- C. *Lomash Ganda*: Refers to hirsutism.

Hence *Pushpaghni Jataharini* clarifies both hormonal imbalance and metabolic disturbance.¹³

Granthi

Any spherical swelling or expansion of the body is referred to as *granthi*. It has been given serious consideration primarily due to the development of ovarian cysts, which enlarge the ovary's volume and give it a swollen appearance. Morbid *doshas* with a predominance of *kapha dosha* vitiate the *mamsa*, *asruk*, and *medo dhatu* as a result of *tridosha prakopaka aahara vihara*, which results in *granthi*.

Sthoulya (obesity)

Inappropriate nutrition and exercise cause *agnimandya* (reduced digestion), which causes *aama utpatti*. It vitiates the *rasa dhatu*, which results in slowed metabolism, *Srotorodha* (body channel obstruction), and *Srotorodha janya apachit medo dhatu vriddhi* (body channel obstruction produces an increase in the *medo dhatu*), which further results in *sthoulya* (obesity).

Santarpanotha Vyadhi

Lack of exercise and a high-calorie diet cause the *Kapha dosha* and Medo dhatu to grow, which may trigger the disease process that appears as santarpanotha vikaras. Numerous santarpanotha vikaras symptoms, such as Prameha (insulin resistance), Youvana pidaka (acne), Klaibya (infertility), Atisthoulya (obesity), etc., might be compared to PCOS. All of these symptoms are included in the lengthy list of PCOS symptoms.

Srotas involved in PCOS:

According to Ayurveda, khavaigunya or srotodusti is present in every ailment (vitiation of body channels). We can manipulate several srotodusti¹⁴ and their symptoms in PCOS in accordance with the indications and symptoms of PCOS as follows:

1. Rasavaha srotodusti lakshanas

Mithya aahara vihara (incorrect diet and behaviour) causes agnimandya (reduced digestion), rasavaha srotodusti (incorrect rasa dhatu creation), which in turn affects upadhatu artava and uttarottara dhatu. Atichinta, or stress, is a major factor in the development of PCOS. The adrenal glands produced the hormone cortisol, which when produced in excess can lead to insulin resistance and resistance in the adrenal receptors. Stress increases noradrenalin levels, which can also result in Insulin Resistance. Reduced insulin sensitivity is also linked to stress. Stress-related increases in blood glucose levels cause the body to produce more insulin. Additionally, glucocorticoids are stress-response hormones that also promote the storage of belly fat and elevate blood sugar levels. The symptoms like Srotasam lepa (obstruction in the srotas), Saada (depression), Akala khalithya (hair fall) have relevance with the symptoms of PCOS.

2. Raktavaha srotodusti lakshanas

It includes only a part of the manifestation that is in the latter half of the disease. The symptoms like Neelika (Acanthosis Nigricans) and Youvana Pidaka (Acne) have relevance with the symptoms of PCOS.

3. Mamsavaha srotodusti lakshanas

The symptoms like Granthi i.e., appearance of cyst on ultrasonography is one among the main manifestations of PCOS.

4. Medovaha srotodusti lakshanas

Only a portion of the manifestation that occurs in the second half of the disease is included. The symptoms of PCOS are related to those of Pramehanam poorvaroopa, or premonitory signs and symptoms of Prameha, Granthi (cyst), and Atisthoulya (obesity).

5. Asthivaha sroto dusti lakshanas

Only a portion of the manifestation that occurs in the second half of the disease is included. The signs of Hirsutism in PCOS, such as abnormal body hair, beards, and moustaches, are similar to those of Keshaloma smashru dosha.

POSSIBLE MANAGEMENT OF PCOS THROUGH AYURVEDA:

1. Nidanparivarjana is the first stage of treatment¹⁵. i.e., avoiding the factors that contribute to sickness. The main components are vatadosha and dushtamedas, hence ahara and vihara that cause vataprakopa and medovridhi should be avoided.
2. Treating Agnimandya at the jatharagni and dhatwagni levels, reducing srotovarodham, and finally regularising the apanavata should be the main goals of PCOS care. Through Chitrakadi vati, Panchkola churna, and shadushanachurna, amapachan and agnideepana.
3. Vaman Karma- To remove contaminated kapha and saumaya substances from the body, which leads to a relative increase in agneya body constituents and an accompanying increase in artava¹⁶.
4. The sanga in Aartavavaha srotas is removed by Uttarbasti¹⁷.
5. When taken orally for seven days following the cessation of menstruation, the Pathadi kwātha prescribed by Susruta in vatakaafajaartavadushti has been proven to be efficacious. Srotoshodhan, aampachan and vatakaaphashamak properties may be responsible for efficacy¹⁸. The ovarian cyst's size is reduced by sukumaraghrita, as described by Acharyavagbhata¹⁹.

6. Satapuspachurna: Due to its katutikta rasa, usnaviryaya, and tikshanasnigdha guna, balya, dipanapachana, yonivishodhana, and aids in ovulation, is the medication of choice in any ailment connected to artava, vatakaphashamak, and pittavardhaka.²⁰
7. Narayan tail: with its katutikta rasa, laghu, rukshaguna, usnaviryaya, katuvipaka, and vatakaphashamak, which finally leads to karma such as deepan, pachana, vilayan, anuloman, and srotoshodhan, ending in aampachan and vatakaphashamak and possibly removing sanga and aavarana (ovulation.)²¹.
8. Various lekhandavyas, such as takra and vyoshadyasattu as described by Acharyacharak, can be used to manage medovridhhi coupled with lifestyle changes including frequent exercise. Dietary changes are also beneficial.²².
9. Dincharya of the patients should be adjusted according to that described in ayurveda as far as possible.²³
10. Exercise regularly. Concentrate on your lower body, this will improve circulation and functioning of your reproductive organs.
 - Suryanamaskar and Yogasanas like – Badhakonasa (butterfly pose)
 - Supta baddhakonasa (reclining butterfly pose)
 - Ushtrasan (camel pose posture)
 - Shalbhasan (locust pose posture)
 - Chakki chalanasan
 - Prasarit padottanasan
 - Bhujangasan (Snake pose)
 - Naukasan (boat pose)

Proves helpful to overcome PCOD. Pranayam helps to destress the body and re-establish the hormonal balance. It should be practiced under expert guidance.

DISCUSSION

A new issue in the gynaecology OPD is PCOD. When a PCOS patient enters an OPD, general practitioners usually recommend weight loss as their initial course of action. The initial recommendation for obese patients is to lose weight because it lowers

their levels of insulin, SHBG, and testosterone and may help them conceive again. By addressing the ama dosha (insulin levels), reaching koshta shuddhi, and controlling the tridoshas, the therapy methods seek to provide holistic care, resulting in regularised menstruation and the restoration of fertility.

CONCLUSION

Changes in lifestyle are the main causes of PCOS. The primary cause of female infertility is essentially an endocrine and metabolic disease. Destruction of the dosha dushya sammurchhana is crucial in the Ayurvedic therapy of the illness. The Dosha, Dushya, Srotas, and Nidana Panchaka of PCOS are crucial for this goal. There are two different types of treatment described in Ayurvedic literature: dosha pratyanka (treatment of doshas) and vyadhi pratyanka (treatment of symptoms). Only after having a thorough grasp of PCOS from an Ayurvedic perspective can these treatments be used.

For women, PCOS is a frustrating condition. Menstrual irregularity and obesity have long been linked, especially in women with upper body fat. A sedentary lifestyle, inactivity, poor diet, stress, and other factors can contribute to obesity. Obesity creates hormonal imbalance, which, depending on the stage, results in Artavakshaya or Artava vrddhi. For women with PCOS, there is presently no optimal medical treatment that completely corrects the underlying hormonal imbalances and addresses all clinical symptoms. Although insulin sensitizers and the oral contraceptive pill both reduce insulin resistance in PCOS and alleviate hyperandrogenism, the adverse effects of this hormonal therapy cause numerous problems. And some surgical procedures, like ovarian drilling, require too much money, which most people can't afford.

The effectiveness of Ayurvedic treatment for PCOS lies in its low cost and complete absence of negative effects. Although PCOS is not explicitly discussed in the Samhita, the Acharya make a treatment-related argument. Unnamed diseases should have their Dosha and Dushya understood so that treatment can be arranged properly. Bandhyayonivyapada exhibits

the highest degree of congruence with PCOS out of all Yonivyapada. Expanded definitions of Aartava, which include menstrual blood, ovum, and hormones, help to elaborate PCOS symptoms in an Ayurvedic perspective and formulate a treatment strategy.

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