



## AN AYURVEDIC APPROACH TO UNDERSTAND SAMPRAPTI OF POLYCYSTIC OVARY SYNDROME

Dr. Zaiba Shaikh<sup>\*1</sup>, Dr Rajashri Ware<sup>2</sup>, Dr Santosh Chavhan<sup>3</sup>

<sup>1</sup>Final Year MD (Scholar), Dept of Rognidan AvumVikrutividnyan, D. Y. Patil University, School Of Ayurveda, Nerul, Navi Mumbai.

<sup>2</sup>Associate Professor, Dept of Rognidan AvumVikrutividnyan, D. Y. Patil University, School Of Ayurveda, Nerul, Navi Mumbai.

<sup>3</sup>Professor and Head, Dept of Rognidan AvumVikrutividnyan, D. Y. Patil University, School Of Ayurveda, Nerul, Navi Mumbai.

**\*Corresponding Author: Dr. Zaiba Shaikh**

Final Year MD (Scholar), Dept of Rognidan AvumVikrutividnyan, D. Y. Patil University, School Of Ayurveda, Nerul, Navi Mumbai.

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### ABSTRACT

PCOS, one of the anuktavyadhi as per Ayurvedic medical science, needs a special contemplation because of its increasing prevalence among young girls in their reproductive age in India. Basically, this article is review of various Ayurvedic classical texts to understand the resemblance of PCOS with diseases described in these text; better understand its pathogenesis based on ayurvedic principle and involvement of srotas dushti related to afflicted dosha and dushya due to contributory factors like sedentary lifestyle, dietary variations, lack of exercise and stress etc. This article focuses on Rasavaha and Medovaha srotas dushti explaining its relevance to PCOS and relating symptomatology of these vitiated srotas to better understand the pathogenesis of PCOS that may guide towards best ways to manage the modifiable factors responsible for PCOS.

**KEYWORDS:** PCOS, Anuktavyadhi, Ayurvedic, Srotas dushti.

### INTRODUCTION

PCOS (Polycystic Ovary Syndrome) is one of the most common female endocrine disorders. PCOS is considered as a lifestyle disorder affecting 22-26% of females in their reproductive age. Approximately 85%–90% of women with oligomenorrhea have PCOS while 30%–40% of women with amenorrhea will have PCOS.<sup>1</sup> Women with PCOS present with diverse features including reproductive (irregular menstrual cycles, amenorrhoea, high rates of miscarriage, infertility); metabolic (insulin resistance, metabolic syndrome, prediabetes, type 2 diabetes and obesity); steroidogenic (hirsutism, acne, androgenetic alopecia and acanthosis nigricans) and psychological (anxiety, depression, body image).<sup>[2]</sup>

Infertility affects 40% of women with PCOS.<sup>2</sup> PCOS is the most common cause of anovulatory infertility. Approximately 90%–95% of anovulatory women presenting to infertility clinics have PCOS.<sup>[3]</sup> Spontaneous abortion occurs more frequently in PCOS with incidences ranging from 42%–73%.<sup>[4]</sup>

PCOS is one of the anuktavyadhi. Ayurvedic texts strongly emphasize that it is not necessary to name every

disease. The understanding of the disease in terms of Nidana, Dosha and Dushya as well as Vyadhiawastha is considered to be crucial in succeeding towards right treatment. Though anuktavyadhi are not interpreted by their names, the cluster of signs and symptoms and the underlying pathology can be understood by the basic principles stated above which not only help in understanding the pathogenesis but also gives direction to think in terms of effective treatment for the same. Charakacharya has introduced briefly about anuktavyadhi in 30<sup>th</sup> chapter of Chikitsasthana. Those diseases which are not mentioned here, one can treat those diseases according to Dosha (bodily humors), Hetu (etiological factors) and Linga (symptoms and signs).<sup>[5]</sup>

Any disease condition is an imbalance between the tridoshas. Each of the three doshas Vata, Pitta, and Kapha have a specific role in the female reproductive cycle. The equilibrium of doshas is mainly responsible for health (i.e. normal menstrual cycle); any derangement leads to condition called vyaadhi (disease). Doshavaishmya is the cause of any disease and is directly associated to the symptoms.<sup>[6]</sup> Hence even if there is no direct mention of a disease in Ayurveda which has direct correlation with modern diseases; a detailed analysis of the lakshana, the

state of doshas, dhatus, agni, srotas etc., will help direct to frame an ayurvedic management by understanding its samprapti (pathogenesis). Symptoms in various disease conditions can be due to various factors. These include agnimandya - derangement of metabolic fire; aama-byproduct of incomplete digestion and metabolism, vitiation and impaired functioning of doshas; srotodushti and srotovaigunya- derangements of various channels or systems; and so on.<sup>[7]</sup> With the help of these basic principles, PCOS can be well explained as the resultant of disturbances or interactions occurring among the doshas, dhatus and srotas, etc. Understanding the symptoms of PCOS as per modern description one can illustrate the condition grounded on the ayurvedic principles.

### Role of Rasavaha Srotas Dushti in PCOS

As per Ayurveda, PCOS does not correlate to any single disease or syndrome but the symptoms bear a similarity to many yonivyapad mentioned in Samhita. Rajodushti (menstrual flow disorder due to vitiation of Doshas) and Anartava (Amenorrhoea) mentioned in classical text also resembles the PCOS symptoms.<sup>[8]</sup>

Raja is considered to be upadhatu of Rasadhatu. Rasa Dhatu is the first dhatu formed by the action of Rasa dhatwagni on the annarasa. The Rasa Dhatu nourishes the entire body. While narrating important functions of all seven dhatus, if the dhatu is of excellent quality as evaluated by Dhatusara Parikshan, then the functions of the particular dhatu are considered to be having excellent quality to perform its functions. Even the quality and functions of related upadhatu depends ultimately on the status of its respective dhatu. Sarata of Rasa Dhatu plays an important role for normal functioning of its upadhatu viz. Raja.<sup>[9]</sup> So, it is obvious that Rasavaha srotas dushti might be involved in PCOS. To understand and establish the involvement of Rasavaha srotas dushti in PCOS the Rasavaha srotas dushti lakshanas mentioned in Charak Samhita should be assessed.<sup>[10]</sup>

### Characteristic manifestations of vitiation of Rasavaha Srotas<sup>[11]</sup>

Various symptoms of Rasavaha srotas dushti are reported in patients suffering from PCOS. These include Ashraddha (loss of appetite), Aruchi (loss of taste), Aasyavairasya (dysgeusia- distortion of the taste), Arasanyata (ageusia, complete lack of taste), Hrullasa (Nausea), Gaurava (sense of heaviness), Tandra (dizziness), Angamarda (body ache), Nisstejata (Listlessness), Aalasya (apathy and lack of interest), etc. Long term dushti of Rasavaha srotas leads to Akalavalaya (early wrinkling of the skin) and Akalapalitaya (premature greying of scalp hair).

अश्रद्धाचारुचिश्चास्यवैरस्यमरसजता।

हृल्लासोगौरवंतन्द्रासाङ्गमर्दोज्वरस्तमः ॥९॥

पाण्डुत्वंस्रोतसंरोधःकलैर्ब्यंसादःकृशाङ्गता।

नाशोऽग्नेरयथाकालंवलयःपलितानिच ॥१०॥

रसप्रदोषजारोगा ॥११॥

(Cha. Su. 28/9-11)

A common feature in PCOS is an overall increase in plasma LH concentrations, consisting of both increased LH pulse frequency and LH pulse amplitude. The resulting elevated serum LH concentration promotes ovarian steroidogenesis. Recent data suggest that it results from an impaired negative feedback on LH secretion, because of excessive androgen action on the hypothalamic-pituitary axis. This leads to follicular arrest in which the selection of the dominant follicle is impaired, despite the excess in the number of selectable follicles which may explain the anovulation of PCOS.<sup>[12]</sup>

Sushruta has mentioned 'Rasanimitajamsthaulyam' which suggests that rasavaha srotas dushti leads to sthaulya (obesity) i.e. vitiation of medovaha srotas.<sup>[13]</sup> Hence it is rational that medovaha srotas dushti might also be involved in PCOS patients.

### Role of Medovaha Srotas Dushti in PCOS

As most of the PCOS patients are obese, it is logical that Medovaha srotas dushti is involved in PCOS. Medoroga described in Ayurvedic texts strikingly resembles with the modern disorder termed as dyslipidemia and further leading to obesity. The concept of vitiated meda can be clinically co-related to the obesity. Medovaha srotas dushti lakshanas that involve rally of symptoms of purvaroop of prameha should be assessed for further correlating the involvement of specific srotas dushti.

The major metabolic abnormality in PCOS is Insulin Resistance (IR). An intrinsic genetic defect in the post-receptor insulin signal transduction has been found in women with PCOS. This may lead to decreased insulin action and a compensatory increased insulin secretion from the pancreatic  $\beta$ -cells. The role of hyperinsulinemia and insulin resistance was established on reproductive and metabolic aspects of the syndrome. Pioneering studies have shown that the classic PCOS syndrome is determined by a distinct form of insulin resistance; however, this molecular defect is not universally present. In PCOS, increased insulin levels are incriminated for direct stimulation of ovarian androgens' production. Hyperinsulinemia provides another determinant of hyperandrogenism by enhancing the effects of LH on ovarian steroid production. The final outcome of this intraovarian hostile interaction, it seems to result in arresting the follicular maturation process.<sup>[14]</sup>

### Characteristic manifestations of vitiation of Medovaha Srotas:

The disease due to vitiated meda shows - premonitory signs & symptoms of prameha and atikrishna and atisthula types mentioned in asthanindita purusha. Charak has described Medoroga under the title of Sthaulya, as Medovaha srotas dushti and can be understood as synonym of Medoroga.<sup>[15]</sup>

... मेदःसंश्रयांस्तुप्रचक्ष्महे

निन्दितानिप्रमेहाणांपूर्वरूपाणियानिच॥ (Cha. Su. 28/15)

### Sthaulya

'Sthaulya' has been derived from word 'Sthula'. 'Sthula' is the 'Guna' which does 'Brimhan' or it brings about bulkiness. 'Sthaulya' is condition with increase in body fat which is vikrut meda vrudhhi i.e. excessive accumulation of fat. As per modern science obesity is a condition in which the body weight is 20% more than the desired body weight.

Sthaulya is described by most of Ayurvedic classical text as ShlesmaNimitaja and RasaNimitaj Vyadhi. All the three doshas plays important role in pathogenesis of Sthaulya; kapha being the predominant dosha. All Acharyas have mentioned this disease under the caption of Medovridhhi. Acharya Sushruta has mentioned Sthaulya as a Dushya dominant disease (Su. su. 24/9)<sup>[13]</sup> and in this disease, the excessive production of abnormal meda dhatu is clearly stated. In obesity, the involvement of Medovaha srotas is the main factor along with the involvement of other srotas mainly Rasavaha srotas.

Besides sthauya, samhitas has also mentioned the medovaha dushti lakshana as described as poorvarupa of Prameha vyadhi.<sup>[16]</sup>

त्रयस्तुखलुदोषाःप्रकुपिताःप्रमेहानभिनिर्वर्तयिष्यन्तइमानिपूर्वरूपाणिदर्शयन्ति;तद्यथा- जटिलीभावंकेशेषु, माधुर्यमास्यस्य, करपादयोःसुप्ततादाहौ, मुखतालुकण्ठशोषं, पिपासाम्, आलस्यं, मलकाये, कायच्छिद्रेषूपदेहं, परिदाहंसुप्ततांचाङ्गेषु, षट्पदपिपीलिकाभिश्चशरीरमूत्राभिसरणं, मूत्रेचमूत्रदोषान्, विसंशरीरगन्धं, निद्रां, तन्द्रांचसर्वकालमिति॥ (Cha. Ni. 4/ 47)

### The symptoms of poorvarupa of prameha that are considered under Medovaha srotas dushti are<sup>[17]</sup>

- Sweda - Profuse sweating,
- Angagandhah - Foul smell in the body,
- Angashaithilyata - Looseness the body,
- Shayya, aasana, swapnasukha- Liking for constantly lying on the bed, sitting, sleeping and leading an easy life,
- Hridayopadeham - Feeling of something coated or heaviness of Hridaya,
- Netra, jihwa, sravanopadeha - Feeling of something coated on eyes, tongue, ear,
- Ghanangata - Heaviness of body parts,
- Kesha Nakhativridhhi - Excessive growth of hairs and nails,
- Sheethapriyathwam - Affinity towards cold,
- Gala Thalushosham - Dryness of throat and palate,
- Asyamadhuryam - Sweet taste in mouth,
- Mutreabhidhavantipipilikascha - rushing of ants towards the urine of diabetic person,

- Jatilibhavakesheshu - Matting of the hair (tangling),
- Mukhashosa - Dryness in the mouth,
- Pipasam - Thirst,
- Alasyam - Laziness,
- Malam kaye - Increased amount of excreta from the body,
- Kayachidreshuupadeham - Adherence of excreta in the orifices of the body,
- Paridaham, suptatam cha angeshu - Burning sensation and numbness in various organs of the body,
- Mutrecha mutra doshas- Appearance of abnormalities in the urine,
- SharireVisragandham - Peculiar body odour of the raw flesh in the,
- Nidra, tandrasarvakalamiti - excessive sleep and continuous drowsiness,
- Madhurashuklamootrata - Urine becomes sweet and white.

Based on review of ayurvedic classical text, PCOS can be explained under the below given ayurvedic conditions<sup>[8]</sup>

- 'Yonivyapad' (anatomical and physiological disorders of the reproductive system) like - 'Anartava' (Amenorrhoea), Arajaska (Oligomenorrhoea due to vitiation of Vata-dosha), Lohitakshaya (Oligomenorrhoea due to vitiation of Vata-Pitta doshas), Shushka (dryness of vagina), Shandhi (reproductive disorder of genetic origin), Vandhya (infertile),
- Pushpaghni revati (idiosyncratic anovulatory menstruation),
- Abeejata (anovulation),
- Rajodushti and Ashtartavadushti (menstrual flow disorder due to vitiation of Doshas) etc.

### Revati Jataharini (Pushpaghani)

Another closely related analogy that can be defined as PCOS condition in Ayurveda is Revati Jataharini. Kashyap has explained the concept of jataharini or revati in the chapter 'revatikalpa' of kalpasthana in Kashyap Samhita<sup>[18]</sup>. Revati causes various abnormalities in offspring and infertility in females by afflicting a mother at various stages of reproductive cycle like menstrual phase, pregnancy or puerperium. It adversely affects and destroys the ovum, embryo, fetus or neonate in ante partum, intra partum or post-partum stages.

Pushpaghani is explained as the woman who menstruate regularly but is unable to conceive, and has hairy and heavy cheeks. This may be attributed to disorders like polycystic ovary syndrome or disturbances of adrenal hormones and factors causing anovulatory menstruation and hirsutism. The cause of Revati is adharm that can be interpreted as an improper diet or lifestyle or infections. This adharm causes sanga in the srotas that in turn

results a vikruti like anovulation and other related symptoms.

Considering all the above-mentioned types of conditions/diseases quoted in the classics it can be noted that neither of them bears a complete resemblance to the current diagnostic criteria of PCOS. Hence, on the basis of the contemporary pathogenesis of PCOS, an Ayurvedic counterpart can be put forth by assessing the most vitiated srotas, evaluate the symptoms of these srotas and then retrospectively define the samprapti of PCOS.<sup>[19]</sup>

Charakacharya states that those who indulge in heavy diets and do not exercise will experience diseased conditions caused by the accumulation of too much aama, or toxins leading to obesity and obstruction of the channels. This can be explained as main cause for weakening of jatharagni or digestive fire, leading to incomplete and sluggish digestion of food which builds aama or toxins in the body.<sup>[17]</sup> Consequently, each of the dhatu agni which provides nourishment and growth for each of the seven dhatus layers are effected. This creates favorable conditions for kapha and meda sanchiti in the body leading to dysfunctions of hormones, insulin and overproduction of androgens as per modern overview.

This consideration of specific srotas dushti lakshana assessment would definitely shed light on understanding the pathogenesis of PCOS with reference to ayurvedic principles. Maximum dushti lakshana observed of any one or both srotas i.e. Medovaha srotas or Rasavaha srotas can be explained by conceptual understanding of vitiation of dosha that affects the metabolic aspect of next seven dhatus and leading to formation of aama. This further leads to derangements in function of related updhatus reflecting the symptomatology of the disease.

## CONCLUSION

In conventional management of PCOS there is no comprehensive treatment available for PCOS. However, approach of Ayurveda with more holistic and comprehensive view by understanding the involvement of Raja, the upadhatu of Rasa in the etiology of PCOS and the related srotas dushti would give an overview of samprapti of PCOS. So, it is necessary to assess the Rasavaha srotas dushti and Medovaha srotas dushti in PCOS to understand PCOS according to Ayurvedic perspective as to plan comprehensive management of PCOS. Such Naidanik approach would direct towards identifying more appropriate Aushadha (drugs) - Anna (dietary) - Vihara (lifestyle) modifications to prevent and manage PCOS.

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