

**POLYCYSTIC OVARIAN SYNDROME-AN OVERVIEW****Mridula. M. K**

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**ABSTRACT**

Polycystic Ovarian Syndrome is recognized as the most common endocrinopathy in reproductive aged women. It is characterized by menstrual irregularities, infertility, obesity, hirsutism and numerous follicular cysts in enlarged ovaries. Oral contraceptive pills, Insulin sensitizers and surgical methods are mainly used in allopathic treatments. It is not affordable and said to be having many side effects. In Ayurveda, *Pushpagni jataharini* mentioned in kasyapa samhitha presents a clinical picture somewhat similar to that of PCOS. Analysing the signs and symptoms of disease, it can be inferred that vitiated kapha causes srotorodha resulting in *vatavaigunya*. *Agneya* property of *pitha* is also depleted. So adopting *vata kaphahara* and *pitha vridhikara* treatment, we can manage the disease through Ayurveda, which is affordable and devoid of major side effects

**Keywords:** Pushpagni jataharini, kapha, srotorodha, pitha etc.

**INTRODUCTION**

Polycystic Ovarian Syndrome is an ill-defined heterogeneous condition with a complex pathophysiology affecting women in their reproductive age. It is the most common endocrine abnormality in women of reproductive age, and its prevalence is estimated to be 4–8% in studies performed in Greece, Spain and the USA. The prevalence of PCOS is increasing the world over and is showing a galloping increase in parallel with the rising prevalence of type 2 diabetes mellitus.<sup>1</sup> It was originally described in 1935 by Stein and Leventhal as a syndrome manifested by amenorrhea, hirsutism and obesity associated with enlarged polycystic ovaries. This complex disorder is characterised by excessive androgen production by the ovaries and adrenals which interferes with growth of ovarian follicles.

Therefore it is actually a state of Androgen excess and chronic anovulation.<sup>2</sup> Symptoms of PCOS vary with age, race, weight and medications adding to the challenges of accurate diagnosis. According to the 2003 ESHRE/ASRM (Rotterdam) criteria, PCOS is defined as a syndrome of ovarian dysfunction along with the cardinal features of hyperandrogenism and polycystic ovary morphology. It is characterized by a varied combination of clinical (oligo/amenorrhea, hirsutism and obesity), biochemical (increased serum levels of luteinizing hormone and androgens) and sonographic (enlarged polycystic ovaries) features. PCOS is also associated with insulin resistance and compensatory hyperinsulinaemia.<sup>3</sup>

**Etiology:** Exact etiology of PCOS is still unknown. High estrogen level can cause

suppression of pituitary FSH and relative increase in LH. Increased LH stimulates the Ovary which results anovulation, multiple cysts and theca cell hyperplasia with excess androgen output. High Insulin levels may increase the testosterone production by the Ovaries.<sup>4</sup> Stress stimulates the adrenals to produce excess androgens.

Hyper insulinaemia leads the stimulation of theca cells to produce more androgens. In 20% cases there may be mild elevation of prolactin, which also stimulate adrenal androgen production. Obesity is also a contributing factor. It leads to excess androgen productions, reduced SHBG and induce insulin resistance.<sup>5</sup> genetic factor also plays an important role in PCOS as per some recent studies As per the study they observed an increased prevalence between affected individuals and their sisters (33 to 66%) and mother (34 to 53 %)<sup>6</sup>

**Clinical features:** Menstrual irregularity is the common feature occurring in more than 75% of PCOS population and is often the earliest clinical manifestation. It may be in the form of oligomenorrhoea or amenorrhoea in adolescent and reproductive age groups and DUB in family completed women. Associated anovulatory infertility is common. There may be hirsutism. Virilism is rare. The patient may not always be obese. But central obesity is common. Specific skin changes due to insulin resistance known as Acanthosis nigricans is a characteristic feature. Thickened and pigmented areas of skin can be seen usually in nape of the neck, inner thighs and axilla.<sup>7</sup>

### Diagnostic criteria<sup>8</sup>

1. Both hyperandrogenism and chronic anovulation as per National Institutes of Health (1990)
2. Two of the following conditions: hyperandrogenism, chronic anovulation, polycystic ovary as per Rotterdam European Society for Human Reproduction (2003)
3. Hyperandrogenism and ovarian dysfunction (including infrequent or irregular ovulation or anovulation) and/or polycystic ovary as per Androgen Excess Society(2006)

### Differential diagnosis and Screening tests:

A careful history and physical examination, looking for other signs of those disorders that may not be a part of PCOS, must be performed. Conditions like Pregnancy, Hypothyroidism, and Hyperprolactinaemia, congenital adrenal hyperplasia, adrenal tumour, ovarian tumour, Cushings syndrome and hyperthecosis should be ruled out. Biochemical evaluations should look for supporting evidence of PCOS (hyperandrogenism and Insulin resistance) and rule out the other disorders described above.<sup>9</sup> Investigations of PCOS include sonography and biochemical tests. Sonography will reveal enlarged ovaries with an increased number of peripherally arranged cysts. In Serum values, LH level is elevated and the ratio LH:FSH is  $>3:1$ . Serum testosterone and DHEA-S may be marginally elevated. Raised serum insulin level or the ratio of fasting glucose: fasting Insulin is  $<4.5$ .<sup>10</sup>

**Long term complications:** Risk of developing Diabetes Mellitus due to Insulin resistance, endometrial carcinoma due to persistently elevated level of estrogens and risk of Hypertension and cardiovascular diseases due to abnormal lipid profile.<sup>11</sup>

**Management:** Management of PCOS is difficult and involves multispecialty approach. The medical management can be broken

down into four components, three of which are for treating “acute” issues irregular menses, hirsutism and infertility and one that is more chronic for the management of insulin resistance.<sup>12</sup> Life style change is the first line treatment in management of PCOS women. Evidence shows that lifestyle change with as little as 5–10% weight loss has significant clinical benefits improving psychological outcomes, reproductive features and metabolic features. The mainstay for decades has been oral contraceptives, which are nearly always effective at normalizing menstrual cycles. The insulin-sensitising drug metformin is also using widely for the treatment. Ovarian diathermy or laser drilling has been used in recent years with apparently good results<sup>13</sup> In short there is currently no ideal medical therapy for women with PCOS that fully reverses the underlying hormonal disturbances and treats all clinical features. The oral contraceptive pills improve hyperandrogenism, and insulin sensitizers reduce insulin resistance in PCOS. Generally, medical therapy is targeted to symptoms and should not be used as an alternative to lifestyle therapy in PCOS. There has been concerning data that the oral contraceptive pills can increase insulin resistance and worsen glucose tolerance. Metformin alone or in combination has had an increasing role in PCOS management, improving the clinical features with positive cardiometabolic effects. It is important to note that neither metformin nor the oral contraceptive pills is approved by most regulatory authorities specifically for PCOS, although both treatments are recommended by international and national endocrine societies. Here comes the importance of ayurveda in the management of PCOS.<sup>13</sup>

### Ayurvedic View

In Ayurvedic classics also it is difficult to find an exact correlation for PCOS. It can be almost correlated to a condition *Pushpaghni Jataharini* described by Kashyapa samhitha around 6<sup>th</sup> century AD in his chapter Revathi Kalpadhyaya.

*Vridhe pushpam tu ya nari Yadha kalam prapasyati*

*Sthoola lomasa ganda va Pushpaghni sa api Revathi*(Ka.Sa.Ka 32/2-34).

This versus says that *Pushpaghni Revathi* have although regular, but fruitless cycles, she has corpulent cheeks with excessive hair growth. This may considered as clinical manifestation of hyperandrogenism resulting in Hirsutism and anovulation. This satisfies two features among three criteria of Rotterdam. Menstrual irregularities can be included in various *artava vyapats* and *yonirogas*. Commonly seen are *nashtartava*, *artavakshaya* and *asrigdhara*. Anovulations resulting in irregular cycles can be described under *vandya*. Obesity can be described under *santarpanajanya vyadhies* and hyperinsulinaemia under *prameha*. hyperandrogenic symptoms can be described under *mukha-dooshika* and *khalati* and hirsutism under *ashtanindita purushas*. Improper ahara viharas plays an important role in the manifestation of diseases as per ayurveda. On analyzing the signs and symptoms of the disease, it can be seen as a manifestation of *vata kapha* vitiation. Changing life style of modern society, excessive intake of food, sedentary life, changing quality of foods, day sleep etc leads to *kapha prakopa* and mental states like sadness, stress, excessive thoughts etc leads to *vata prakopa*. Eating before the digestion of previous foods also leads to *vataprakopa*. This vitiated doshas leads to vitiation of *dhatu*, *malas* and *srotases*. Mainly vitiation of *rasa*, *raktha*,

*mamsa, medho, asthi and sukra dhatus*, *artava upadhatu, rasavaha, rakthavaha* and *artavavaha srotases* takes place. *Agneya guna* of *pitta* is also depleted. All these leads to *apana vata vaigunya* with *kapha avarana* and the manifestation of various symptoms like *nashtartava, atilomata, mukha-dooshika, vandyatwa, sthoulya* etc.

### Treatment

*Vatakaphavrita marganam apravritha Manam pithalair that pravrithamanam* (A.Sa.1/3)

*Samkshepatha : kriyayogo nidanaparivarjanam* (Su.U1/24)

*Samsodhana chikitsa*, use of *dravyas* having *agneya guna* and *nidana parivarjana* (eradication of causative factors) are the main treatment principles.

**Nidanaparivarjanam:** It is the first line of treatment in all types of diseases as per Ayurveda. Elimination of the cause is essential in treating and preventing diseases especially PCOS

**Samsodhana:** *Samsodhana chikitsa* helps to expel the vitiated *doshas* from our body. *Vamana* and *virechana* are the best treatments for vitiated *kapha* and *pitha* respectively. They help to clear both upward and downward channels. *Mridu samsodhana* leads to *vatanulomana* also. *Vasthi* is the best treatment for correcting vitiated *vata*. *Vasthikarma* with *dravyas* having *medohara* and *lekhana* properties are found to be beneficial in the treatment of PCOS.

### Samana chikitsa

**Use of Agneya Dravya :** *Agneya dravyas* possess *vatakapha samana* and *pithavardhaka* properties. It helps to correct the vitiated *doshas*. *artavajanaka* and *aartavapravartaka* properties helps to correct the functions of *artava upadhatu*. Due to the *ushna teekshna* properties it removes *srotorodha*

and decreases *medodhatu*. We can use the principle “*vridhi samanaihi sarvesham vipareetaihi viparyaya* ‘in this condition also. *Rakta vardhaka* and *rajovardhaka aharas* can be used for the correction of vitiated *raktha dhatu* and *artava upadhatu*. We can adopt treatment modalities of *Prameha, sthoulya, medodusthi* etc considering its complex *samprapthi* and symptoms. Kashyapacharya quotes the use of *Rasona* (*Allium cepa*), *Shatapushpa* (*Anethum graveolens*) and *Shatavari* (*Asparagus racemosus*) to be beneficial in all disorders of Artava. He advocates the utility of *Shatapushpakalpa* (a formulation of *Shatapushpa*) in the infertile woman to gain pregnancy.<sup>15</sup> In *Sahasrayoga, Palasa twak kwatha* and *tila kwatha with paribhadra twak bhasma* is indicated for *Artava sodhana*.<sup>16</sup>

*Pathyaharas* plays an important role in the management of PCOS. *kulatha, masha, tila*, sour substances, *buttermilk, curd* etc can be used as diets and drinks.<sup>14</sup>

**Commonly using formulations:** *Tila kwatha, Sukumaram kashayam, Kana satahwadi kashayam, Saptasaram kashayam, Kaisora guggulu, Chandraprabha gudika, Rajapravarthini vati, kanchanara guggulu, asokarishtam, kumaryasavam, hinguvachadi churnam, Sukumaram rasayanam, sukumaram ghritam* etc

### Recent researches

1. *Yogabasti upakrama* with *Dasamoola kwatha niruha vasti* and *tila taila anuvasana* is found to be effective in infertility due to PCOS. A 27 yr old patient was selected for the study. 3 Cycles of *Yogavasthi* was done in three consecutive months. After the study period she had regular cycles and got conceived.<sup>17</sup>
2. Subfertility with PCOS was treated with an ayurvedic protocol for six months .It was conducted in three stages.

In the first stage patients were treated with triphala kwatha, chandraprabha gudika and manibadra gula. In the second stage with satavari churna, s atapushpa churna and guduchi churna and in the third stage with atibala churna, satapushpa churna and pills prepared from satavari, triphala, guduchi and jatamansi. In the third stage they administered sahacharadi tailam orally and did uttarabasti with satapushpa taila. At the end of the treatment majority of patients attained normal BMI levels (85%) and 75% of patients conceived. After a one year follow-up, 85% from the treated group conceived.<sup>18</sup>

## CONCLUSION

PCOS is a frustrating experience for women. There is currently no ideal medical cure for women with PCOS that fully reverses the underlying hormonal disturbances and that treats all clinical features. The oral contraceptive pill, used in allopathy does improve hyperandrogenism, and insulin sensitizers reduce insulin resistance in PCOS, but the side effects of this hormonal therapy lead to many complications. And certain surgical procedures such as ovarian drilling, assisted Reproductive technologies are too costly, which most of the women find unaffordable. The importance of ayurvedic management of PCOS lies in the cost effective way of its treatment and the total lack of side effects in the medicines used. Ayurvedic medicines strengthen and revitalize the female reproductive system, regularize menstrual cycles, rectify hormonal imbalances, thus enabling women to lead a healthy life.

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