

## CASE STUDY ON PCOS: AN AYURVEDIC APPROACH

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**ABSTRACT**

The female reproductive system is composed of the hypothalamo-pituitary-ovarian axis and the uterus and surrounding tissue. Imbalances in any system can lead to problems throughout the body. PCOS is a common endocrine disorder characterized by irregular ovulation or lack of ovulation, signs of excessive androgen production, and multiple small ovarian cysts. Symptoms can vary and can include menstrual irregularities, infertility, obesity, depression, insulin resistance, and an increased risk of conditions like diabetes, endometrial cancer, and heart disease. Ayurveda views PCOS as a condition caused by imbalances in the three doshas and dhatus, that can result in symptoms such as amenorrhea and anovular bleeding. In a case report of a 22-year-old woman with irregular periods, weight gain, and increasing facial hair, ayurvedic treatment to balance the doshas and improve overall health led to reduced symptoms and regular menstrual cycles after six months of treatment.

**KEYWORDS:** *Pushpaghni, PCOS, Kanchnar Guggulu, Kumaryasava, Insulin resistance.***INTRODUCTION**

According to the Rotterdam criteria from 2003, Polycystic Ovarian Syndrome is defined by certain characteristics, including elevated levels of male hormones and/or irregular ovulation, as well as the presence of multiple small cysts on the ovaries. If a patient exhibits two out of these three symptoms, they are diagnosed with PCOS.<sup>[1]</sup>

The prevalence of PCOS is currently estimated to be between 5-15%, and is on the rise due to changes in lifestyle. It is becoming increasingly common in young women, developing soon after puberty. Among infertile women, 15-20% have PCOS. Additionally, a significant proportion of PCOS patients, between 50-70%, are also obese.<sup>[2]</sup>

Both experts and the general public are missing a lot of crucial information about PCOS. Currently, the cause or causes of PCOS are still a mystery. Research suggests that PCOS is caused by a complex interplay of multiple factors, including hormonal imbalances, insulin resistance, genetic predisposition, and environmental influences. Increased androgens and the effects of insulin resistance are thought to be key components of the condition. Ovarian dysfunction, hypothalamic pituitary abnormalities, and obesity are also believed to play a role in the development of PCOS.<sup>[3]</sup> It is still an active area of

research, and more studies are needed to fully understand the underlying cause of PCOS.

Polycystic ovary syndrome (PCOS) is a complex condition that affects multiple body systems, leading to a wide range of symptoms. Reproductive symptoms may include infertility, menstrual irregularities, recurrent miscarriages, and fetal abnormalities. chronic anovulation may present as oligomenorrhea, amenorrhoea, DUB, and infertility.<sup>[4]</sup> Metabolic symptoms may include insulin resistance, metabolic syndrome, and impaired glucose tolerance, which may increase the risk of diabetes and cardiovascular disease. Insulin resistance and metabolic syndrome may be seen in conjunction with high waist circumference, high Body Mass Index (BMI), and abnormal SHBG.<sup>[3]</sup> Insulin resistance has also been known to cause acanthosis nigricans. PCOS is characterized by hyperandrogenism, which may manifest as hirsutism, acne, male pattern alopecia, and skin tags.<sup>[4]</sup> Psychological symptoms may include reduced quality of life, poor self-esteem, depression, anxiety, and eating disorders.<sup>[3]</sup>

Modern medicine offers two main options for treating PCOS: hormone therapy and surgery. Hormone therapy can help bring back regular periods, reduce hair growth, and address other problems caused by long-term PCOS. Surgical therapies include ovarian wedge resection,

laparoscopic ovarian drilling, and rarely oophorectomy in severe in hyperthecosis and hyperandrogenism.

In Ayurveda, there is no direct reference to Polycystic Ovary Syndrome (PCOS), but when we examine the literature, the clinical features of PCOS are similar to the condition known as *Pushpaghni Jataharini* in Ayurveda.<sup>[5]</sup>

### CASE REPORT

A 22-year-old unmarried woman who sought treatment at the *Prasuti Tantra* and *Stree Roga* OPD of MLR AYURVEDIC college and hospital Charkhi-Dadri Haryana for irregular menstrual cycles, gradual weight gain, and increasing facial hair for the past 5 months. The patient was overweight with a BMI of 28.4kg/m<sup>2</sup>. An ultrasound revealed that she had bilateral PCOS.

**Family history** -The patient's father had been diabetic for 12 years.

**Past medical history** - There was no relevant past medical history.

### Menstrual history

|                         |             |
|-------------------------|-------------|
| Age of menarche         | 13 years    |
| No. of days of bleeding | 3-4 days    |
| Interval                | 2- 3 months |
| Cycle                   | irregular   |
| No. of pads             | 2-3 /day    |
| Pain                    | +           |

### Personal history

|          |                    |
|----------|--------------------|
| Diet     | Non-vegetarian     |
| Appetite | Decreased          |
| Thirst   | Normal             |
| Bowel    | Constipated        |
| Bladder  | Normal micturition |
| Sleep    | Excessive          |

Marital history: unmarried

### Follow-up and outcome after 6 months:

|                         | BT                           | AT   |
|-------------------------|------------------------------|--|
| No. of days of bleeding | 3-4 days                     | 3-4 days   |
| Interval                | 60 -90 days                  | 30 - 40 days   |
| Cycle                   | irregular                    | regular  |
| No. of pads             | 2-3 /day                     | 3-4 /day   |
| Pain                    | +                            | +  |
| Weight                  | 70 kg                        | 61 kgs   |
| BMI                     | 28.4kg/m <sup>2</sup>        | 24.7kg/m <sup>2</sup>  |
| USG                     | Bilateral polycystic ovaries | normal uterus and ovaries, dominant follicle on the left side. |

Along with a strict diet- periods become regular; a 9 kg reduction in weight was also noted. Follow-up USG reveals normal uterus and ovaries, dominant follicle on the left side.

### Physical examination

|                  |                 |
|------------------|-----------------|
| Blood pressure   | 110/80 mm of hg |
| Pulse rate       | 74/min          |
| Respiration rate | 20/min          |
| Height           | 157 cm          |
| Weight           | 70 kg           |

### Investigations

Blood Investigations: Haemoglobin-12.2g/dl, FBS-98mg%, PPBS- 130mg%, and Thyroid profiles were within normal limits.

USG Findings: Slightly retroverted uterus of size 36 mm x 39mm x 56mm. Endometrial thickness of 9.2mm, right ovary with 9.6cc volume and left ovary with 8.4 cc volume. Both ovaries showed multiple small follicles of less than 6mm arranged at the periphery of either ovary. bilateral PCOS patterns were noted.

### Diagnosis

The diagnosis was made based on clinical history, Physical examination, and USG report.

### Ayurvedic management

Internal medicine: following medicines were advised for 6 months.

|                              |                                 |
|------------------------------|---------------------------------|
| <i>Ashwagandha Churna</i>    | 3gm BD after meals              |
| <i>Aarogya Vardhini Vati</i> | 1 TDS                           |
| <i>Kaanchnar Guggulu</i>     | 1 BD                            |
| <i>Kumaryasavam</i>          | 20 ml BD with after food        |
| <i>Triphala Churna</i>       | 1 tsf at bedtime with warm milk |

### Advice

Green leafy vegetables like spinach and broccoli are advised to be taken.

High fiber-rich foods like carrots, and oranges.

Regular exercise and Yoga.

Avoid processed and high-calorie food.

### DISCUSSION

Unhealthy diet and lifestyle (*Apathya Aahara Viharas*) lead to the formation of toxins (*Aama*) in the metabolic system (*Rasadhathu*), which in turn causes problems in the reproductive system (*Arthava Upadathu Dushti*). This unhealthy state leads to the improper selection and maturation of eggs. The toxins produced also affect the

other bodily tissues (*Dhathus*) and can manifest as symptoms such as excessive weight gain and excessive facial hair. facial hair can occur due to vitiation of *Asthi Dhathu* as hair is a by-product of the *asthi dhatu*. *Kapha and Medho Dushti* (imbalance in the bodily fluids and fat metabolism) can happen due to excessive consumption of meat and lack of physical activity and deep sleep. These imbalances in the bodily humor (*Dosha*) and tissues (*Dhathus*) can affect the ovary and its morphology.

Stress has a significant impact on PCOS. *Withania somnifera* has been shown to be an effective anti-stress agent in many preclinical and clinical studies.<sup>[6]</sup> It supports endocrine function and improves hormonal balance in women with PCOS by reducing testosterone, LH, and FSH levels. The GABA-mimicking properties of *Withania somnifera* extract play a crucial role in regulating hormone secretion.<sup>[7]</sup> Treatment with the root's hydroalcoholic extract increases the estrus phase and decreases the diestrus phase, as well as reducing LH, testosterone, and estradiol levels in PCOS rats induced with letrozole.<sup>[8]</sup> *Withania somnifera* also has hypoglycemic effects by increasing insulin secretion and sensitivity and reducing cholesterol levels through increased bile acid synthesis, making it an effective treatment for PCOS.<sup>[9,10]</sup>

*Aaroghyavardhini Vati* is an Ayurvedic medicine that acts on the metabolic and circulatory systems (*Rasa And Rakta Dhatu*) and helps in the quality development of the follicles. It stimulates the functions of the liver and increases the secretion of sex hormone binding globulin, which leads to a decrease in androgen production. One of the major ingredients in *Arogyavardhini Vati* is *Kutki* (*Picrorhiza kurroa* Royle ex Benth), which helps in reducing pitta and purifying the blood (*Rakta Suddhi*). This ultimately leads to the purification of the reproductive system (*Artavavaha Srotas*).<sup>[11]</sup>

*Kanchanara Guggulu* is an Ayurvedic herb which has properties that balance *vata* and *kapha* in the body, it also has scraping and anti-inflammatory properties. It has been found to inhibit cell division and reduce cell proliferation and it also has cytotoxic effects.<sup>[12]</sup> It is effective in balancing *Kapha* by boosting metabolism and burning fat and also enhances digestion. The herb *Bauhinia variegata* (*Kanchanara*) which is the main ingredient in this medicine has anti-inflammatory and anti-diabetic properties<sup>[13]</sup> which helps in reducing insulin resistance often associated with PCOS.

*Kumaryasavam* helps balance *Vata* and *Kapha* in the body improves digestion and increases appetite. It also has the property of promoting ovulation, which is beneficial in treating PCOS.

*Triphala Choornam*, protects the body from free radicals, and inflammatory and mutagenic changes, also has hypoglycemic action which reduces insulin resistance.

Regular exercise and *Yoga* keep the body and mind in equilibrium which is a state of good health.

## CONCLUSION

Women with PCOS have a higher risk of developing health problems such as type 2 diabetes, hypertension, heart disease, and uterine cancer. They are also more likely to experience infertility. Ayurvedic treatments have proven to be effective in managing PCOS and its associated conditions. A healthy diet and regular physical activity can also help with weight management, which is often an issue for women with PCOS. Ayurvedic therapy can reduce weight and alleviate PCOS symptoms, helps improve insulin resistance and promote ovulation.

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