

Pcos Problem in Modern Era and Its Management

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Abstract

Polycystic Ovarian disease is a serious problem which today 10% women of the society are facing. It has significant and diverse clinical implications including reproductive (infertility, hyperandrogenism, hirsutism), metabolic (insulin resistance, impaired glucose tolerance, type 2 diabetes mellitus, adverse cardiovascular risk profiles) and psychological features (increased anxiety, depression etc.). Importantly, PCOS has unique interactions with the ever increasing obesity prevalence further obesity-induced insulin resistance significantly exacerbates all the features of PCOS. It has also clinical implications across the lifespan and is relevant to related family members with an increased risk for metabolic conditions reported in first-degree relatives from mother to baby. Management should focus on support, education, addressing psychological factors and strongly emphasising healthy lifestyle with targeted medical therapy as required. Monitoring and management of long-term metabolic complications is also an important part of routine clinical care.

Keywords

PCOS, Polycystic Ovarian disease, Clinical



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INTRODUCTION

Polycystic ovarian Syndrome (PCOD) is a common hormonal disorder among women of reproductive age. It is a condition where hormonal imbalance affects the follicular growth during the ovarian cycle, causing the affected follicles to remain in the ovary. PCOD or Polycystic Ovary Disease is a kind of hormonal disorder that affects one in 10 women.^{1,2} Despite being heterogeneous in nature, the hallmark of the disease are hyperandrogenism and anovulation. Since its description in 1935 by Stein and Leventhal³ much has been learned about the pathophysiology of PCOS.⁴ PCOS is due to hormonal imbalance created by a combination of increased androgens and/or insulin. Hyperandrogenism is a well established contributor to PCOS aetiology, detected in around 60% to 80% of cases. Studies performed on monkeys, sheep shows that prenatal androgenization is cause of PCOS. Maternal PCOS increases the risk for a daughter to have PCOS by 50%. Insulin resistance is a pathophysiological contributor in around 50% to 80% of women with PCOS⁵, especially in those with more severe PCOS diagnosed on National Institutes of Health (NIH) criteria and in women who are overweight Conversely,

lean women and women with milder PCOS are also diagnosed. 20% cases of PCOS has normal menstrual cycle⁶.

AETIOLOGY

The exact aetiology of PCOS is not clear. In PCOS cases, pituitary gland may release abnormally high amount of luteinizing hormone into blood stream disrupting normal menstrual cycle. As a result ovarian follicle does not mature and ovulation does not occur, which can lead to infertility. Insulin level in blood also rises. Too much insulin combined with high levels of luteinizing hormone can lead to excess production of male hormone called testosterone in ovaries; abnormally high amount of testosterone prevents ovulation. Infrequent or prolonged menstrual periods, excess hair growth, acne and obesity can all occur. In women with polycystic ovarian syndrome symptoms include irregular or no menstrual periods, heavy periods, excess body and facial hair, acne, pelvic pain, trouble in getting pregnant, and patches of thick, darker, velvety skin.⁷ Associated conditions include type 2 diabetes. In adolescents, infrequent or absent menstruation may signal the condition. In women past adolescence, difficulty becoming pregnant or unexplained weight

gain may be the first sign. In women with PCOS, multiple small follicles (small cysts 4 to 9 mm in diameter) accumulate in the ovaries, hence the term polycystic ovaries. The follicles may be oriented in the periphery, giving the appearance of a 'string of pearls'.⁸None of these small follicles are capable of growing to a size that would trigger ovulation. As a result, the levels of estrogen, progesterone, LH, and FSH become imbalanced.

Androgens are normally produced by the ovaries and the adrenal glands. Examples of androgens include testosterone, androstenedione, dehydroepiandrosterone (DHEA), and DHEA sulfate (DHEA-S). Androgens may become increased in women with PCOS because of the high levels of LH, but also because of high levels of insulin that are usually seen with PCOS.

IMPACT OF OBESITY ON POLYCYSTIC OVARY SYNDROME

Obesity and excess weight are major problem in chronic diseases. Obesity increases hyperandrogenism, hirsutism, infertility and pregnancy complications both independently and by exacerbating PCOS^{9,10}. In general populations, obesity and insulin resistance further increase type 2 diabetes (DM2) and cardiovascular disease

(CVD). Likewise, in PCOS obesity worsens insulin resistance and exacerbates reproductive and metabolic features^{11,12}. Furthermore, women with PCOS have increased risk factors for DM2 and CVD, increased impaired glucose tolerance (IGT), DM2 and potentially increased CVD¹². As obesity rates rise, the public health significance of PCOS will increase¹². Women with PCOS usually have fewer than six to eight menstrual periods per year. Some women have normal cycles during puberty, which may become irregular if the woman becomes overweight.¹³.

Ayurveda's perspective on PCOD

Ayurveda classifies PCOD as a *Kapha* disorder. *Kapha* having first affected the digestive fire – *jatharaagni* starts to affect the metabolic aspect of the seven tissues called *dhatuagni*. Each *dhatuagni* is responsible for the nourishment and formation of that particular tissue that it resides in. In PCOS there is obstruction in pelvic cavity (*Apanakshetra*) leading to *vikrit ApanVayu*. In the case of PCOD the *dhatu*s affected are *arera dhatu* – lymph and plasma, *medadhatu* – adipose tissue and *artavadhatu* – the female reproductive system. *Ama*, entering the cells of *arthavadhathu* begins to affect the cellular

intelligence of the cell by dampening *pitharaagni* causing error in cellular function and intelligence. Ayurveda suggests that this is vata type disorder (*Apanvayu*) though the involvement of other dosha can be there but in some measure because the gynaecological disorders are mainly supposed to be due to vitiation of *vata*. PCOS Is A Disorder Involving *Pitta*, *Kapha*, *Medas*, *Ambhuvahasrotas* & *ArtavaDhatu*. The causes of PCOS as per *Ayurveda* can be taken as eating excessive sweet and *kaphavardhak* foods, mandagni because of this is *kapha* getting aggravated in PCOS, we find *kapha* disorder. As well as *pitta* and *vata* disorders. Because of all three doshas play important & distinctive role in the production, development, maturation & release of ovum & therefore the ovarian cycle & menstrual cycle is under control of three doshas. Mistake of cellular intelligence is also expressed in the inhibiting of apoptosis – death of defective cells.¹⁴⁻¹⁷

Symptoms of PCOD

Irregular periods happen to be the most common symptom of PCOD. Besides that, excessive facial and body hair also known as hirsutism, diabetes, infertility, acne, weight-gain, oily skin, heart trouble and migraine

are a few other symptoms. If periods are largely irregular and not corrected over a long period of time, then the risk of uterus cancer also goes up. Mood swings and bouts of depression could also be milder symptoms of PCOS. PCOS is the most common cause of anovulatory infertility. It accounts for 90% to 95% of women attending infertility clinics with anovulation. Sleep apnea is another big problem. However 60% of women with PCOS are fertile (defined as the ability to conceive within 12 months), although time to conceive is often increased.¹⁸ In those with PCOS and infertility, 90% are overweight. Obesity independently exacerbates infertility, reduces efficacy of infertility treatment and induces a greater risk of miscarriage. Ideally, weight should be optimised prior to pregnancy. Age-related infertility also exacerbates infertility. Male-pattern hair growth (hirsutism) may be seen on the upper lip, chin, neck, sideburn area, chest, upper or lower abdomen, upper arm, and inner thigh. Acne is a skin condition that causes oily skin and blockages in hair follicles.

DIAGNOSIS OF PCOS

Until recently no universally accepted clinical definition existed for PCOS. Over the past three decades, research has highlighted that PCOS is a heterogeneous condition. Symptoms and signs related to PCOS have been evaluated and the initial diagnostic criteria based on oligomenorrhoea/amenorrhoea and clinical or biochemical hyperandrogenism have been broadened to include PCOS at ultrasound in the key diagnostic criteria. FSH, LH level and their ratio, testosterone level, FBS, Lipid profile, liver function test and USG are main for diagnosis of PCOS. A total of 25% of young women have PCOS on ultrasound and the inclusion of PCOS in diagnostic criteria has increased the prevalence of PCOS.

. COMPLICATIONS

Hypertension
 High Cholesterol
 Anxiety
 Sleep apnea
 Endometrial Cancer
 Heart attack
 Diabetes
 Breast Cancer

PREVENTION

TREATMENT

Allopathy treats on the line of hormonal imbalance and treatment include HRT (Harmonal Replacement therapy).

Ayurveda adheres in preventing PCOD in a natural way by balancing the doshas. Apart from the miraculous panchakarma, Ayurveda suggests various herbs along with dietary and lifestyle changes to cure this disease. Treatment of obesity through lifestyle intervention is a key treatment strategy in PCOS and improves insulin resistance, reproductive and metabolic features. Treatment is to open the path of apanvayu by reducing Kapha.

HERBS

Certain herbal medicines can regulate PCOD by balancing the hormones. They include blue cohosh, false unicorn root, milk thistle and dandelion to regulate the sex hormones. Other herbs taken by Indian women to help manage insulin resistance include *neem*, *tulsi*, fenugreek and basil. Cinnamon also provides support for people with insulin resistance. Flax seed and evening primrose oil provide Omega-3 and 6 fatty acids, which are helpful to the cardiovascular system.

1. **Ashwagandha roots** – *Ashwagandha* is a popular herbal supplement with extensive applications in traditional Indian and

Ayurvedic medicine. *Ashwagandha* has been highly prized as a treatment for impotence and infertility. *Ashwagandha* root is highly prescribed in Ayurveda for the treatment of PCOD. An exclusive blend made with *ashwagandha* roots and *arjun* bark is prescribed for PCOD patients.

2. Sesame seeds – Boil 5 gms black sesame seeds in 100 ml water. Filter and add organic jaggery and drink it two times a day in empty stomach. This simple remedy can be continued till proper menses is achieved.

3. Shatavri-Shatavari helps in promoting normal development of ovarian follicles, regulates menstrual cycle and revitalizes the female reproductive system. Shatavari also helps in combating the hyperinsulinemia- i.e. high levels of insulin, mainly due to its phytoestrogen¹⁹

4. Shatpushpa-Fennel seeds also known as shatapushpa in Sanskrit are a good supplement for PCOS. They are rich source of phytoestrogens. Phytoestrogens in fennel, helps in reducing insulin resistance and in bringing down the inflammation in PCOS. Phytoestrogens are also believed to help reduce the cellular imbalance which leads to metabolic disturbances in PCOS²⁰

5. Guduchi-Guduchi is a powerful anti-inflammatory herb. Chronic inflammation in

tissues is the root cause for insulin imbalance and ovarian cysts. Guduchi helps in revitalizing all the body tissues and boosts metabolism naturally.²¹

6. Aloe Vera-Kumari (*Aloe barbadensis*) Aloe vera is yet another Ayurvedic herb that is extremely beneficial in treating PCOS. It helps in regularizing the menstrual cycles, promotes normal menstruation and normalizes ovarian hormonal imbalance.

7. Amlaki-Natural rasyan, which keeps all dosha, dhatus and mala in samaavastha.

Include papaya in meals.

8. Castor oil – It is a fatty acid and has been used in Ayurveda as a treatment for dissolving ovarian cysts. It is easily absorbed through the skin and is beneficial to the blood and lymph vessels, uterus, bowels and fallopian tubes. A castor oil pack is placed on the abdomen to improve circulation and promote the healing of organs under the skin. Castor oil packs are specific to benign uterine fibroids and ovarian cysts. Do not use castor oil on uterine growths or cancerous tumours. Pregnant women should not use a castor oil pack.

10. Alum is an excellent medicine used in Ayurveda to stop bleeding. Crush the purified alum and roast it in an iron vessel and make it into a powdery form. Take 1/2

gam of this powder with 10gms crystal sugar and 50ml water twotimes a day till bleeding stops.

11. VaradiKashaya is also a useful medicine for treatment of obesity, by balancing vishmadhatus it cures PCOS mentioned in Sahstrayoga.

Utarbasti is most effective treatment in gynaecological disorders. Uttarbasi with warm Shatavri and Sehchar oil is very beneficial.

YOGA AND DIET

There's no permanent cure for PCOS but the symptoms can be managed. With the right diet and adequate exercise, a few women have reported remarkable improvement. Relaxation is the key in Polycystic Ovarian Disease. Posture's designed for PCOS helps open up the pelvic area & promote relaxation and strength to the entire reproductive organs. You can relax in the asana by coordinating it with breathing. Pranayama's (breathing exercises) are powerful techniques that help calm the mind. Yoga has several poses (Sarvangasana, Padmasana, Ardhalasana, Surya Namaskara etc.) that aids in weight loss, relieves stress and improves blood circulation to the ovary, thus naturally curing PCOD. The diet plan should be tailored as

per individual requirement and degree of insulin resistance. Ayurveda advises to choose low Glycemic Index (G.I) foods – such as cauliflower, tomatoes, onions, peaches, apples, and grapefruit for those suffering from PCOD. Protein foods such as fresh fish, organic chicken, organic eggs whole grains and legumes should be eaten to balance your blood glucose levels. Limit the intake of saturated fats that are found in red meat, chicken, commercially prepared snack foods and deep fried food. These food items help in slowing the rise in blood sugar levels and pacify the strength of the disease. Eating at regular intervals is advised strongly. Restriction of food is another major aspect. Include more of fruits and vegetables in your diet and avoid dairy-based products. Many health experts believe that dairy-based products can increase insulin levels which can aggravate acne and other symptoms.

DISSCUSION

According to *Ayurveda* PCOS is a disorder involving *pitta*, *kapha* & *vatadoshas*. *Rasa* & *medadhatu, rasa, rakta* & *artavavahastratasa*. The herbs, life style changes works to improve hormone utilization & regulates overall hormone balance. The properties of

deepana&pachana of above measures they elevate the jatharagni, dhatwagni as well as artavagni. Kapha reducing, insulin enhancing & harmonerebalancing , drugs helps to relieve the symptoms PCOS. Due to basti the treatment principle is to clear obstruction in pelvis, normalize metabolism & regulate menstrual system (artavadhatu) uttarbasti is most effective treatment in gynecological disorders. Shatavari&sahachar is very good for menstrual problems. Shtavri oil contains polysaturated fatty acid which ultimately intensify the penetration of oil based substances through cell membrane which is composed of lipid bilayer which has inherent capability of movement & this movement is directly proportional to temperature,. this may be the reason to heat the oil in mild temperature before administration of uttarbasti.

General basti regulates the nervous control & uttarbasti regulates CNS controlling the pelvic organs. Hence by governing HPO axis through hypothalamus it helps in maintenance of follicular growth (oil of sahachara were helped to destroy cysts in ovaries & stimulates the follicular maturity. Oil of shatavari helps to bring strength to reproductive system.

CONCLUSION

PCOS is just due to *vishmadosha* leading *vishmaagni* and then *vishmadhatus* of body. So by reducing *agravateddoshas*, and keeping *agni* in *samaavstha* PCOS can be controlled.

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