

CRITICAL REVIEW ON POLYCYSTIC OVARIAN SYNDROME

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Polycystic Ovarian Syndrome (PCOS) is a multifactorial and polygenic condition. It is also called as Stein – Leventhal Syndrome. It's diagnosis is based upon the presence of three key criteria namely Oligomenorrhea and anovulation, hyperandrogenism and polycystic ovaries. PCOS is found to be the most common reason for menstrual irregularities in 4% – 12% of women in reproductive age. 5%- 10% of women develop PCOS during their child bearing age or teenage. Worldwide PCOS affects up to 6%– 7% of the population. The incidence of PCOS in India is nearly 35%. However Ayurveda texts

dose not clearly mention about PCOS. With various ongoing researches, published article and its symptoms, correlation with various *dosha vrudhhi* and *Strotas dushti* is done and accordingly the Ayurvedic management for it is planned. The current article thus reviews PCOS in the term of Ayurved principles.

KEYWORDS: Ayurveda, Polycystic Ovarian Syndrome.**INTRODUCTION**

Polycystic Ovarian Syndrome is very common hormonal disorder and leading cause of female infertility. PCOS was first described by Irving Stein and Michael Leventhal in 1935.^[1] It is the one of the most Endocrinopathy.^[2] Diagnosis is based upon the presence of any two of 3 key criteria as Oligoovulation and anovulation, hyperandrogenism and Polycystic Ovaries.^{[2][3]} It is found to be the most common reason for menstrual irregularities in 4% - 12% of women of reproductive age.^{[4][5]} 5% -10% of women their teenage develop PCOS.^[6] World wide it affect up to 6% -7% of the population. However the prevalence specific to the country vary extensively. In India the Incidence of PCOS is nearly 35% of women suffer from it. PCOS is condition where a hormonal imbalance affect follicular growth during the

ovarian cycle causing the affected follicle remaining in the ovary the retained follicle forms into a cysts and with each ovarian cycle a new cysts formed and leading to many no of small cysts around the edge of ovaries. Symptoms of PCOS are like menstrual abnormalities in the form of Oligomenorrhea, amenorrhea or dysfunctional uterine bleeding and infertility. Weight gain, excessive hair growth to varying degree on face, chest and abdomen. Oily skin and acne vulgaris, acanthosis nigricans mean specific skin changes like thickened and pigmented. Commonly affected site are nape of the neck, inner thigh and axilla. Abdominal pain during periods, arthralgia and hair loss, constipation, indigestion, flatulence in present day due to sedentary life PCOs is increasing day by day. It is life style disorder most of women suffer from it. Allopathy does not cure PCOS but help in managing and controlling effects. While Ayurveda can be considered as best and promising treatment and no side effects.

Etiology

The etiology of PCOS remains unclear, however, it has certainly been linked to a variety of etiology factors. They are as follow –

1 Hormonal imbalance

- An alteration in gonadotropin releasing hormone secretion result in increasing of LH secretion high LH whose excessively increased level disrupt proper ovarian function. LH hyper secretion is main reason of infertility in women having PCOS.^[7]
- High testosterone level leading to sign of hyperandrogenism.
- Low sex hormone binding globulin (SHBG) hormone that allow the expression of hyperandrogenism.
- High prolactin level which is stimulates the production of milk in pregnancy is found to be raised in comparatively in few patient.

2 Insulin resistance – An alteration of insulin secretion leads to hyperinsulinemia and insulin resistance. Hyperinsulinemia is a pathological state in which the ability of the cell to respond to normal action of hormone insulin is diminished where in 10% show type 2 diabetes, besides, and 30% - 35% have impaired glucose tolerance (IGT). High activity of micro RNA -93 in fat cell hinder the use of glucose by insulin contributing to PCOS and also to insulin resistance.^[8]

3 Genetic factors A gene implicated in the development of obesity is also linked to susceptibility to PCOS. Research at the University of Oxford and the Imperial College London reveal that.^[9]

- 4 Stress and other psychological factors** PCOS is often caused by psychological factors. Increased stress can disrupt the normal menstrual cycle and hormonal imbalance such as increased level of cortisol and prolactin which affects menstruation that normally resumes after the stress subsides.
- 5 Miscellaneous** – The sedentary life style, lack of exercise and endocrine disorder, excessive use of contraceptive pills, and strong stimulation in adrenal in childhood.

PCOS Sign and Symptoms - Symptoms of PCOS vary from woman to woman

- Infertility by preventing ovulation
- Irregular and scanty menses
- Amenorrhea
- Oligomenorrhea
- Metrorrhagia
- Elevated insulin level and insulin resistance
- Obesity
- Elevated androgen level include acne vulgaris, hirsutism means excessive hair growth on body
- Hair loss (alopecia)
- Skin tags
- Anxiety
- Depression
- Sleep apnea
- Tenderness in breast before period
- Itchy vagina and vulva
- Hysteria
- Multiple cysts in the ovaries
- Oily skin
- Dandruff^[11]

Diagnosis

- There are several tests to diagnose PCOS. The diagnosis is based upon the presence of any two of the three criteria (ASRM/ESHRE)^[12]
- ❖ Oligomenorrhea and anovulation

- ❖ Hyperandrogenism
- ❖ Polycystic ovaries

- Medical history – Menstrual period and weight change and other symptoms are observed
- Physical examination – BMI (Body Mass Index) weight size and checking the area of increase of hair growth.
- Ultrasonography.
- Laparoscopic examination is useful in reveal thickened, smooth, pearl – white outer surface of the ovary.
- Blood test – serum level of androgen increased.
- The ratio of LH and FSH is greater than 1:1 as one day 3 of menstrual cycle
- Level of Sex Hormone Binding Globulin (SHBG) is reduced.
- Fasting biochemical screen and lipid profile.
- TSH to rule out for hyperthyroidism.

The contemporary treatment of PCOS

If BMI elevated then at least loss of 5 -7% of body weight can restore ovulation in up to 80% obese patient possibly by reducing hyperinsulinemia and thus hyperandrogenism. Induction ovulation (OI) with Clomiphene citrate.

Administration Insulin sensitizing with clomiphene is advisable, Gonadotropin therapy and FSH hormone are the next option followed by Gonadotropin with insulin sensitizer. Metformin is a choice of drug that increased ovulation and reduces the problems caused by insulin resistance and also regulate the raised level of androgens. Apart from these, anti androgenic therapy is advisable to reduce the masculine effects of testosterone like hirsutism, alopecia and Eflornithine as cream to retard hirsutism.^[13]

Laparoscopic Ovarian Drilling (LOD) is the surgical procedure recommended patient in who do not respond to clomiphene therapy. It destroys the androgen producing tissues. Thus correct hormonal imbalance and restoring normal ovarian functioning, it also results in decreasing level of LH and testosterone level and an increased in the FSH level.

Ayurvedic aspects of PCOS

Ayurveda described PCOS to have same involvement of the dosha *dhatu*, *upadhatu*. it does not correlated the condition to a single disease but its symptoms are resemble to the some

Ayurvedic terminologies.^[14]

- 1 **Arjaska yonivyapad** – (Oligomenorrhea due to vitiation of *Vata - Pitta dosha*) when *pitta* situated *yon*i and uterus vitiated *Rakta*, it is accompanied with burning syndrome, emaciation and general pallor this condition is known as *Arjaska*. *Charakacharya* has described as Amenorrhea as symptom.^[15]
- 2 **Lohitkshara yonivyapad** – The *hetu sev*an of *Vata Pittakar Aahar Vihar* causes vitiation of *Vatta – Pitta* resulting in *Rajkshinta* (scanty menses) the women suffer from burning sensation, emaciation and discoloration. a similarly to the contemporary symptoms are resemble to menstrual irregularity.
- 3 **Vandhya yonivyapad** - According to *Sushrutacharya* this type of yonivyapad is presenting as *Nashtartava*(loss of menstruation).^[16] *Charakacharya* stated this condition developed from loss of ovulation. According to Harit six type of Vandhya. Each has particular feature prognosis and management. One of them is *Anapatya Vandhya* (infertility) where *Dhatukshaya* is etiological factor of *Nashtartava*. Here, Artava is considered as *Saptadhatu* or ovum and its loss leading to infertility. *Anaptya yonivyapad* can be compared with PCOS due to similar features of anovulation and irregular menses.
- 4 **Abeejata** - (Anovulation) *Sushrutacharya* state the eartiological factor of rajodushti in female like *Ruksha, Tikta, Kashaya, atilavan, Aamla, Ushna Aahar and chinta, Shok, aaghat, Krodh* leading to *Abeejta*. In female *aartavabeejata* (anovulation) is noted by viatation of *Aartav*.^[19]
- 5 **Ashtartava Dushti** – *Vagbhatacharya* state that *Aartava* can be vitiated by the *Dosha* resulting in eight type of *Aartava Dushti*. Such viatation leads to *Abeejata*. Once again similarity to PCOS is noted as anovulatory menstruation only.^[18]
- 6 **Rajodushti** – According to *Sushrutacharya* *Rajodushti* is a result of vitiation of *Raja* by the *Vatta Pitta dosha*. Resulting in its *kshinata* (Oligomenorrhea).

Santopanottha Samprapti

The above stated etiological factor s give rise to *jatharagni* and *Dhatvaagni mandya* along with *Aamotpatti* resulting in *sthoulya*. due to *Aamotpatti* and *Agnimandya* improper nourishment of *saptam Dhatu* thus become *Aartava ksheen* (undernourished) *Sthouatlya* is synonymous with the viatation of *Kapha* that causes prolongation in the *Ritukala* of the *Rutuchakra*. This in turn impedes the effect of *Pitta* thus hampering maturation and rupture of the follicles. Result in *Aartavakshay* (anovulation). The bulky appearance of the ovaries

can be attributed to their vitiation by *Kapha* and *Meda* thus leading to an increase in the ovarian volume *Kapha* predominance manifests as obesity, infertility, hirsutism and *Pitta* predominance manifest as Alopecia, acne and dysmenorrhea with clots. *Vata* predominance manifest with oligomenorrhea, dysmenorrhea.

Ayurvedic Treatment of PCOS^[19]

In PCOS management Firstly should be concentrate on treating Agnimandya at Jatharagni and Dhatvagni level and regulitizing the apan vayu one of the cause of this disorder is sanga (obstruction) vata sanshobh a and dhatukshaya. Hence, main chikitsa sidhhan for removed of Sanga is Vata shaman deeapan Pachan and Anuloman. According to Vagbhattacharya advice Basti Abhyanga Parisheka Pralepa and Pichudharan is the line of treatment.^[20]

Shodhan Chikitsa – Basti (Anuvasan and Niruha), Uttarbasti, Vaman, Virechanthese Panchkarma are useful in PCOS. Basti to be the modality of choice in this context due to its utility in condition of viated Vatta and Vaman Virechan are useful in viated Kapha Pitta respectively.

Shaman chikitsa

- Dravya – sariva, manjishta patha, deodaru, kiratikta pimlmool, indrayava, erandmool etc. according to kashyapacharya Rason, Shatpushpa and Shatavari are mostly beneficial all menstruation problem.
- Yoga - Raspachak, Medopachak, Rajprvartini, Aarogyavardhini Hingvashtak churna
- Kalpa – Pushpadhanva, Vasantkalpa.

Diet and Life style

- ✓ Keep away from food items with high saturated fat content
- ✓ Drink plenty of fluids of water and avoiding sleeping after lunch or during day time
- ✓ Use of natural salt like *Saindhaiva*
- ✓ *Vyayam* – exercises the most important part of the treatment due to which medicinal treatment is much more helpful than singly done.
- ✓ *Yoga and Pranayam* – *Kapalbhati*, *Bhastrika*, *Bhramari*, *Anulom – vilom* *Simhasan*, *vajrasan*, *Shalbhasan* *Bhujangasan*.

DISCUSSION

PCOS is multifactorial problem with reproductive endocrine and metabolic dysfunction. It is

characterized by Oligomenorrhea and anovulation, hyperandrogenism, infertility, insulin resistance, ovarian dysfunction, obesity and type 2 diabetes. It affects 5% - 10% of female in developed countries. Symptoms are PCOD irregular and scanty menses within 3 or 4 year of starting menstruate light or heavy bleeding during period excessive hair growth on body, weight gain, acne, skin tags, moderate lower abdomen pain during period, hair loss, bone pain, constipation, flatulence, indigestion. The treatment of PCOS is different pathies like allopathy and *Ayurveda*. The allopathy treatment does not cure but generally focuses on management of main concern like infertility, acne, obesity. *Ayurveda* has most effective treatment of PCOS than other paths. In *Ayurveda* PCOS is disorder involving *Vata Pitta Kapha Dosha* and *Aartava*. *Ayurvedic* treatment works to improve hormone utilization and regulate overall hormonal balance and strength to menstrual system and it regulates the *Aartava Dhatu Shodhan Chikitsa* this primarily includes selected *Panchkarma upkarma* specially *Anuvasan and niruha Basti, Uttarbasti, Vaman, Virechana*. *Basti* is useful in condition of vitiated *Vata*. *Virechan* is useful in condition of vitiated *Pitta*. *Vaman* is useful in condition of vitiated *Kapha*.

CONCLUSION

PCOS is a life style disorder leading to cause of infertility in women. The treatment of PCOS with different medicinal pathies- Allopathy medicine are limited and it does not cure PCOS but it only provides symptomatic treatment in managing and controlling effects as per above discussion. Due to the promising results of *Ayurvedic* treatment with very less side effects it can be considered as best cure for PCOS.

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