



**P. C. O. S. (polycystic ovarian syndrome) as a cause
for female infertility: a review**

Priyanka S. Mane¹, Satyajee Mane², Shivkant J. Patil*³

1. Assistant Professor, Department of Kriya Sharir, Ashokrao Mane Ayurvedic Medical College and Hospital, Vathar Tarf Vadgaon, Tal-Hatkanangale Dist-Kolhapur
2. Consultant, Department of Kayachikitsa, Ashokrao Mane Ayurvedic Medical College and Hospital, Vathar Tarf Vadgaon, Tal-Hatkanangale Dist-Kolhapur
3. Consultant, Associate Professor & H.O.D., Department of Swasthavritta & Yoga, Ashokrao Mane Ayurvedic Medical College and Hospital, Vathar Tarf Vadgaon, Tal-Hatkanangale Dist-Kolhapur

*Corresponding author: dr.shivkantpatil@gmail.com

ABSTRACT:

P.C.O.S. is a major endocrino-metabolic disorder which affects the woman's reproductive health. Nowadays, the incidence of P.C.O.S. has been greatly increased due to various factors such as sedentary lifestyles and related disorders, endocrine crises, improper dietary habits, lack of exercise etc. The prevalence rate of the P.C.O.S. is as high as 26% among some populations, though ranges between 4% and 18%. Though the prevalence is very much high, the exact cause of the P.C.O.S. is still not confirmed. The characteristic features of the P.C.O.S. are unovulatory menstrual cycles, ovaries having cysts, amenorrhea or oligomenorrhea. Apart from gynecological

symptoms, the P.C.O.S. is also associated with hyperglycemia, hyper-androgenemia and obesity.

Aims and objectives: The conceptual study of P. C. O. S. as a cause for female infertility was the chief aim of the study.

Materials and Methods: All available national and international textbooks, national and international indexed original articles from reputed high impacting journals, various magazines related to the concept, academic databases like Pub Med etc.

Conclusion: From the conceptual study it can be concluded that the P. C. O. S. can be a major cause to develop the female infertility. The article is an endeavor to

understand the literature of the concept of P.C.O.S. as a cause of female infertility.

Keywords: P. C. O. S., female infertility, amenorrhea, oligomenorrhea

• INTRODUCTION:

Polycystic ovarian syndrome (P.C.O.S.) is a gynecological syndrome which affects 6 to 15 % of female population all over the world¹. The disease is featured by irregularities in the menstrual cycle with absence in Oocyte (Anovulation or Oligo-ovulation), Hypermenorrhea, Hirsutism and Acne. The ovaries present with multiple cysts and the patient may be associated with Obesity, Type 2 Diabetes, Infertility, male pattern baldness, Heart diseases and mood related symptoms. The exact causative factor is still not known but the risk is contributed from factors like genetics, Obesity, family history, lack of exercise, stress and other psychological factors. The abundant of androgen found in PCOS cases, a key hormone for development of PCOS².

The PCOS is a complex condition and the etiopathology is difficult to understand and state. It also appears to be a cause for infertility as it is seen as a major contributory factor in female infertility patients. The article presents a review to understand the concept of P.C.O.S. as a cause of female infertility.

• AIMS AND OBJECTIVES:

Aim: To study the concept of P. C. O. S. as a cause for female infertility.

Objectives:

- 1) To study the concept of P. C. O. S. (Polycystic ovarian syndrome)
- 2) To study the concept of female infertility
- 3) To study the concept of P. C. O. S. as a cause for female infertility

MATERIAL AND METHODS:

All available literature relevant to the concepts under the study has been reviewed. Textbooks, national and internationally published original research recent research papers from reputed journals having high impact factors, magazines, academic databases like PubMed, Google Search, Google scholar etc. were used to study the concepts.

REVIEW:

A) P.C.O.S.

Definition³: Polycystic ovarian syndrome (P.C.O.S.) is a female disease characterized by the ovaries with multiple cysts formation, un ovulatory menstrual cycles, hyperandrogenism, and abnormal gonadotropins. Here it is to be understood that the multiple cysts formation is just the symptom⁴ in the Polycystic ovarian syndrome (P.C.O.S.) and not the whole and sole cause of the disease. The disease is also called as hyper androgenic anovulation, Stein-Leventhal syndrome.

Two definitions as criteria to say a patient have Polycystic ovarian syndrome (P.C.O.S.) are in use.

1. The patient suffering from anovulation or oligo ovulation, hyperandrogenism and irregularities in menstrual cycle may be

diagnosed as patient of Polycystic ovarian syndrome (P.C.O.S.)

2. The patient suffering from anovulation or oligo ovulation, excess secretions of androgens and cystic ovaries may be diagnosed as patient of Polycystic ovarian syndrome (P.C.O.S.)

In 2006, androgen Excess PCOS Society⁵ came up with stringent diagnostic criteria for P. C. O. S. Criteria is as follows:

1. Hyperandrogenism
2. Anovulation or oligo ovulation and / or cystic ovaries
3. Exclusion of other factors which cause hyperandrogenism

- **Signs and symptoms:**

These include-

1. Anovulation or oligoovulation
2. Irregular menses
3. Hypermenorrhea
4. Hirsutism and acne
5. Weight gain and male pattern baldness

These are commonly having a presence of type 2 diabetes, infertility, heart diseases and mood related symptoms. Almost 80 % of PCOS cases are having obesity. Endometrial hyperplasia, miscarriages, acanthosis, depression and anxiety are also the featured symptoms associated with PCOS.

- **Etiology:**

This is the disease having both genetic and environmental pathologies. Still the exact

cause remains unknown. Obesity, family history and lack of exercise play a pivot role as risk factors.

B) Infertility

Defination: The inability of a person to reproduce is called infertility. WHO has defined the infertility⁶ as, Failure to have a clinical pregnancy after 12 months or more of regular unprotected sexual intercourse (and there is no other reason, such as breastfeeding or postpartum amenorrhea).

There are two types of infertility:

1. Primary infertility: it is infertility of a couple who have never had a birth of a child previously.
2. Secondary infertility: it is infertility of a couple who have infertility after conceiving a pregnancy.

- **Causes of Female infertility:**

1. Imperfect vaginal intercourse at the time of ovulation.
2. Organic problems of fallopian tube, uterus or ovaries.
3. Infections such as chlamydia, endometriosis
4. Inability of ovulation

About 25% cases of Female infertility are due to inability of ovulation. Due to monthly absence of ovum, unovulation or

oligoovulation leads to infertility. PCOS is also characterized by unovulation or oligoovulation which makes it a major cause of female infertility. More than 75 % cases of unovulatory infertility are due to PCOS⁷. Around 80% anovulatory infertility cases are represented by PCOS⁸. PCOS makes the female population prone to develop the infertility.

DISCUSSION:

The PCOS is a complex disease which is heterogenous in nature and the exact etiopathology can't be stated. The major cause to develop the PCOS is claimed to be the Hyperandrogenism, which may be the key factor from which the pathology gets triggered. The disease progresses and affects the female at the various systems viz. reproduction, metabolism, endocrinal disturbance etc. the major significant effect is the infertility. The cases of the infertility due to PCOS should be diagnosed separately.

• CONCLUSION:

The patients of PCOS are presented with irregular menses and Anovulation or Oligoovulation, Hypermenorrhea, Hirsutism and Acne. The ovaries are cystic and the patient may be show Obesity, Type 2 Diabetes, Infertility, male pattern baldness, Heart diseases and mood related symptoms.

The infertility in the preexisting PCOS females is as high as 80%. The incidence rate of PCOS is also increasing. The more the cases of PCOS, more will be the infertility in females. The PCOS related

infertility should be diagnosed and managed separately.

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