



POLYCYSTIC OVARIAN SYNDROME – A PATHETIC PLIGHT

R.Hasini, Dr . A.V. Kishore Babu, Dr . A. Srinivasa Rao.

**R.Hasini Pharm D IV Year,
BHASKAR PHARMACY COLLEGE,
YENKAPALLY, MOINABAD.**

Dr . A.V. Kishore Babu Pharm D PhD

Dr . A. Srinivasa Rao M. Pharm, PhD F.I.C.

ABSTRACT:

PCOS is a common gynaecological disorder that is associated with irregularity in menstrual cycle, anovulation, weight gain ,obesity, acne hirsutism etc. In severe cases it also may lead to endometrial cancer, ovarian cancer. PCOS is generally observed in reproductive age and mostly in women with unhealthy diet. The major complications of PCOS involved DM, infertility, thyroid and various other effects. PCOS also causes various metabolic abnormalities .But the research showed that it was not an appropriate to diagnose the patient as PCOS effected only based on this parameters as it is just one of the associated effect of PCOS not the main cause. Mostly it effected pregnancy that was major concerning factor of PCOS this was over come by IVF which showed a increased rate of fertility and decreased complications. Increased insulin resistance was mostly observed in women with PCOS having normal glucose tolerance. Administration of metformin in pregnant women for treating gestational DM lead various hypothesis that lead a way to different researches among which one of it proved that administration of metformin caused increased head size of offspring as the metformin crosses placenta and accumulates . This has brought the starting of research to find alternative drug to metformin for treatment of GSD. Hence, it is necessary to make people aware about PCOS and healthy life to prevent such disorders.

Key words: PCOS, Acanthosis ,Insulin resistance, Metformin, Invitro maturation.

INTRODUCTION:

PCOS stands for Polycystic ovary syndrome It's a hormonal disorder that effects women .It can cause symptoms like irregular periods, weight gain, acne and fertility issues . Typical clinical features include hirsutism, chronic anovulation and infertility. PCOS is quite prevalent , around 5-10% of women of reproductive age .

The exact cause of PCOS is not fully understood, but it is contributed by factors by genetics and insulin resistance. Hyperandrogenism can cause inhibition of follicular development, microcytes in the ovaries, anovulation and menstrual changes.

Women with PCOS tend to show higher risk to endometrial cancer, CVD, altered lipid metabolism, DM-2. PCOS is a heterogenous disorder that affects 7% adult women. It is noted that about 35% women from India suffer from PCOS .Various studies and research was done to improve the health condition of women effected with PCOS which lead to various discoveries . Among which metformin treatment ,letrozole treatment studies were carried out.

Confusion in diagnosis of the disorder based on metabolic parameters screening was studied.

DISCUSSION:**IDENTIFICATION OF RISK FACTORS PF PCOS AND TO PROVIDE AWARENESS :COMMUNITY BASED STUDY**

A community based research study in Tirupathi (AP) who have conducted a survey in rural areas among 310 women of reproductive age to know the risk factors of PCOS. The results were obtained based on the questionnaire which included various aspects like past medical history, menstrual history ,demographic details, diet, physical activity. The results showed that

Parameter	Result
Age	<24 years -27.096%(higher incidence)
Body weight	obese

RISK FACTORS:

Obesity and over weight were common conditions observed from the study with risk factors such as acne, stress, acanthosis, obstructive sleep apnoea and hair growth .It also stated that junk food consumption is also one of the major cause of PCOS among the people. Thyroid was also a major factor associated with PCOS along with DM and HTN.

SHOULD ALL WOMEN WITH PCOS BE SCREENED FOR METABOLIC PARAMETERS ? :A HOSPITAL BASED OBSERVATIONAL STUDY

Another study which was based on role of metabolic parameter screening as diagnostic parameter for assessment of PCOS was conducted in China in an hospital .

The study was done among 2436 women who were >18 years involving various phenotypes (HA,PCO,OD,PCO+HA+OD,PCO+OD,PCO+HA,HA+OD)which showed that metabolic abnormalities should not be used to distinguish among various PCOS phenotypes.

INSULIN RESISTANCE ACCORDING TO BETA CELL FUNCTION IN WOMEN WITH PCOS AND NORMAL GLUCOSE TOLERANCE

This study was conducted on 100 women with PCOS and normal glucose tolerance and 100 age-and BMI- matched women as controls .PCOS is associated with insulin resistance and compensatory hyperinsulinemia.IR was found to be major risk factor for DM2.

It had shown results that women with PCOS had higher values for post loaded 2 hour glucose ,fasting insulin ,post load 2 hour insulin. This sought of results concluded that women with PCOS and normal glucose tolerance showed higher IR than normal women .Beta cell function also increased. This made necessity for early evaluation of IR in women with PCOS and normal glucose tolerance.

As a result of increased risk of DM ,infertility various treatment methods were developed to reduce these issues . Among those metformin treatment in pregnant women ,Invitro maturation have come up as a solution . various studies were done to see the effectiveness of this methods.

IN VITRO MATURATION IN WOMEN WITH VS. WITHOUT PCOS: A SYSTEMIC REVIEW AND META ANALYSIS

A research study up on meta analysis proved that IVM seems to be effective in treating women with PCOS during IVF cycle compared to those without PCOS. This was concluded based on 11 trails with 268 PCOS, 100 PCO patients and 440 women with other causes of sub fertility .a comparative study between with PCOS and without PCOS had given a clear vision.

It has given a clear conclusion that IVM appears to be a more efficient treatment option in terms of clinical pregnancy ,implantation and cycle cancellation rates in women with PCOS when compared to the women without PCOS.

METFORMIN EXPOSURE ,MATERNAL PCOS STATUS AND FETAL VENOUS LIVER CIRCULATION : A RANDOMISED ,PLACEBO -CONTROLLED STUDY

Women with PCOS has increased risk of adverse pregnancy outcomes such as gestational DM preterm delivery , preeclampsia and small gestational age new born . Maternal PCOS status also tend to effect offspring .

Metformin a biguanide was prescribed to PCOS to prevent pregnancy complications. IT also reduces blood glucose level ,insulin resistance, and inhibit lipogenesis. This is a study which was done to identify the effect of metformin on foetus. It is a sub study in which 487 women were randomly treated with metformin (2g/day) or placebo .Then the women undergone ultrasound examination at gestational week 32, followed by other tests like blood flow velocity and diameter measurements of umbilical vein , the ductus venosus , and the portal vein.

Then they found that there were no difference in foetal liver flow between metformin and placebo exposed foetuses. Earlier they also noticed that metformin exposed foetus has shown increased head circumference ,obese at 8 years of age .So they hypothesized that it may also effect the venous liver circulation which was a key point led to this research.

CONCLUSION:

PCOS was found to be a common disorder among women. There various reasons which lead to effect of PCOS .Lifestyle, diet also play role in PCOS. PCOS was also followed by severe complications like DM , obesity , pregnancy complications anovulation etc. Hence it is essential to create awareness among people mainly women of reproductive age to prevent PCOS. We can also conclude that metabolic parameters alone need not to be examined for assessment of PCOS. As PCOS alone doesn't depend on metabolic disturbances rather it being one of the effect. As insulin resistance increases with increasing PCOS it is essential for regular checking of blood sugar and controlling it . WE also came to know that metformin usage in pregnant women as anti diabetic to treat GDM though it was very effective but has shown severe side effects such as increased circumference etc .Hence this need to be altered by other drugs that show less side effects than the metformin. Pregnancy complications is an very concerning effect of PCOS which was overcome by IVF ,according to my view it was great and one of the impressive and effective factor that resolved the issue. This has helps many married women to give birth to offspring without any major risk. In this PCOS and its effects were observed in various aspects .Lifestyle modifications , diet management, exercise can play a major role in controlling PCOS.

REFERENCE:

1.Lauritsen MP, Bentzen JG, Pinborg A, Loft A, Forman JL, Thuesen LL, et al. The prevalence of polycystic ovary syndrome in a normal population according to the Rotterdam criteria versus revised criteria including anti-Mullerian hormone. Hum Reprod. 2014;29(4):791–801. pmid:24435776

View ArticlePubMed/NCBIGoogle Scholar

2.Palomba S, de Wilde MA, Falbo A, Koster MP, La Sala GB, Fauser BC. Pregnancy complications in women with polycystic ovary syndrome. *Hum Reprod Update*. 2015;21(5):575–92. pmid:26117684

View ArticlePubMed/NCBIGoogle Scholar

3.Viollet B, Guigas B, Sanz Garcia N, Leclerc J, Foretz M, Andreelli F. Cellular and molecular mechanisms of metformin: an overview. *Clin Sci (Lond)*. 2012;122(6):253–70. pmid:22117616

View ArticlePubMed/NCBIGoogle Scholar

4.Bauer PV, Duca FA, Waise TMZ, Rasmussen BA, Abraham MA, Dranse HJ, et al. Metformin Alters Upper Small Intestinal Microbiota that Impact a Glucose-SGLT1-Sensing Glucoregulatory Pathway. *Cell Metab*. 2018;27(1):101–17 e5. pmid:29056513

View ArticlePubMed/NCBIGoogle Scholar

5.Romero R, Erez O, Huttemann M, Maymon E, Panaitescu B, Conde-Agudelo A, et al. Metformin, the aspirin of the 21st century: its role in gestational diabetes mellitus, prevention of preeclampsia and cancer, and the promotion of longevity. *Am J Obstet Gynecol*. 2017;217(3):282–302. pmid:28619690

View ArticlePubMed/NCBIGoogle Scholar

6.Løvvik TS, Carlsen SM, Salvesen Ø, Steffensen B, Bixo M, Gómez-Real F, et al. Use of metformin to treat pregnant women with polycystic ovary syndrome (PregMet2): a randomised, double-blind, placebo-controlled trial. *The Lancet Diabetes & Endocrinology*. 2019;7(4):256–66. pmid:30792154

View ArticlePubMed/NCBIGoogle Scholar

7.Rotterdam ESHRE/ASRM-Sponsored PCOS Consensus Workshop Group. Revised 2003 consensus on diagnostic criteria and long-term health risks related to polycystic ovary syndrome. *Fertil Steril*. 2004;81(1):19–25. pmid:14711538

View ArticlePubMed/NCBIGoogle Scholar

8.Sung Y-A. Hyperandrogenism in Women: Polycystic Ovary Syndrome. *Hanyang Med Rev*. 2012;32:197–202.

View ArticleGoogle Scholar

9.Escobar-Morreale HF, Carmina E, Dewailly D, Gambineri A, Kelestimur F, Moghetti P, et al. Epidemiology, diagnosis and management of hirsutism: a consensus statement by the Androgen Excess and Polycystic Ovary Syndrome Society. *Hum Reprod Update*. 2012;18(2):146–70. pmid:22064667

View ArticlePubMed/NCBIGoogle Scholar

10.World Health Organization, International Obesity Task Force. The Asian-Pacific perspective: redefining obesity and its treatment. Geneva, Switzerland: WHO Western Pacific Region, 2000.

11.Balen AH, Laven JS, Tan SL, Dewailly D. Ultrasound assessment of the polycystic ovary: international consensus definitions. Hum Reprod Update. 2003;9(6):505–14. pmid:14714587

View ArticlePubMed/NCBIGoogle Scholar

12.Song DK, Lee H, Oh JY, Hong YS, Kim DS, Sung YA. Insulin resistance according to β -cell function in polycystic ovary syndrome women with normal glucose tolerance. Diabetes Research and Clinical Practice 2014;106 Suppl 1:45. [http://dx.doi.org/10.1016/S0168-8227\(14\)70293-1](http://dx.doi.org/10.1016/S0168-8227(14)70293-1).

View ArticleGoogle Scholar

13.Carmina E, Lobo RA. Use of fasting blood to assess the prevalence of insulin resistance in women with polycystic ovary syndrome. Fertil Steril. 2004;82(3):661–5. pmid:15374711

View ArticlePubMed/NCBIGoogle Scholar

14.Dunaif A. Insulin resistance in women with polycystic ovary syndrome. Fertil Steril. 2006; 86 Suppl 1:S13–4.

View ArticleGoogle Scholar

