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STUDY OF PREGNANCY OUTCOME IN WOMEN WITH POLYCYSTIC OVARIAN SYNDROME AND NEONATAL OUTCOME

Dr. Priyanka Ahire[1], Dr. Sneha C. Tirpude[2], Dr. Mugdha Parasnis[3]

[1]Department of Obstetrics and Gynaecology, KEM PUNE, Maharashtra, India
[2]Department of Paediatrics,GMC AKOLA , Maharashtra, India
[3]Department of Obstetrics and Gynaecology , KEM PUNE, Maharashtra, India

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***Corresponding Author**
Dr. Priyanka Ahire,
Department of Obstetrics and Gynaecology, KEM PUNE, Maharashtra, India

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A B S T R A C T

Polycystic Ovarian Syndrome (PCOS) is a common endocrine disorder affecting women of reproductive age, often leading to complications in pregnancy. This study evaluates the maternal and neonatal outcomes in women diagnosed with PCOS. The study was conducted at a tertiary care hospital, involving pregnant women with PCOS, tracking their pregnancy progress, complications, and neonatal outcomes. Findings suggest an increased prevalence of gestational diabetes, hypertensive disorders, preterm birth, and neonatal complications such as low birth weight and NICU admissions. Early diagnosis and proper antenatal care are crucial in improving both maternal and neonatal outcomes.

Keywords: PCOS, pregnancy outcomes, neonatal complications, gestational diabetes, hypertensive disorders

INTRODUCTION

Polycystic Ovarian Syndrome (PCOS) is one of the most prevalent endocrine disorders, affecting 5-15% of women of reproductive age. It is characterized by ovulatory dysfunction, hyperandrogenism, and polycystic ovaries. PCOS is associated with metabolic disturbances, including insulin resistance, obesity, and dyslipidemia, which can complicate pregnancy. Women with PCOS have an increased risk of pregnancy-related complications such as miscarriage, gestational diabetes mellitus (GDM), pregnancy-induced hypertension (PIH), preterm birth, and higher rates of operative deliveries. This study aims to analyze the maternal and neonatal outcomes of pregnancies in women diagnosed with PCOS.

In addition to metabolic disturbances, PCOS has been linked to chronic low-grade inflammation, which may contribute to endothelial dysfunction and adverse pregnancy outcomes. Increased levels of inflammatory markers, such as C-reactive protein (CRP) and interleukins, have been observed in PCOS patients, which may predispose them to conditions like preeclampsia and intrauterine growth restriction. The hormonal imbalances in PCOS, particularly elevated androgens and insulin resistance, can also disrupt placental development, leading to placental insufficiency and fetal distress.

Another critical factor affecting pregnancy outcomes in PCOS women is the role of assisted reproductive technologies (ART). Many women with PCOS require ovulation induction or in vitro fertilization (IVF) to conceive, both of which can increase the risk of multiple pregnancies and obstetric complications. Additionally, the use of fertility treatments may further exacerbate metabolic and hormonal disturbances, complicating maternal and neonatal health. Understanding these

multifaceted interactions is essential for optimizing pregnancy care in PCOS patients and implementing effective management strategies to minimize risks.

MATERIALS AND METHODS

Study Design: Observational Study

Study Setting: Tertiary Care Hospital, Department of Obstetrics and Gynaecology

Study Population: Pregnant women with PCOS attending the antenatal clinic

Duration: 1 year

Inclusion Criteria:
• Women diagnosed with PCOS
• Age 18-40 years

Exclusion Criteria:
• Women with anovulation due to causes other than PCOS
• Women with medical conditions like diabetes, hypertension, or thyroid disorders unrelated to PCOS

Methodology
Women diagnosed with PCOS were recruited and followed throughout their pregnancy. Data on maternal complications, mode of delivery, and neonatal outcomes were recorded. Standard diagnostic tests were performed, including glucose tolerance tests for GDM and blood pressure monitoring for PIH. Neonatal outcomes such as birth weight, APGAR scores, and NICU admissions were analyzed.

RESULTS
Maternal Outcomes

Maternal Complication, Observation in PCOS Pregnancies

Gestational Diabetes Mellitus (GDM), Increased incidence compared to non-PCOS controls
Pregnancy-Induced Hypertension (PIH), Higher prevalence in women with PCOS
Preterm Birth, More common in PCOS pregnancies
Mode of Delivery, Increased rates of cesarean section due to fetal distress and labor induction failures

Neonatal Outcomes

Neonatal Complication, Observation in PCOS Pregnancies

Low Birth Weight & Fetal Growth Restriction (FGR), Higher rates of FGR and small-for-gestational-age (SGA) infants,
NICU Admissions, Increased NICU admissions due to neonatal complications
APGAR Scores, Lower APGAR scores at 1 and 5 minutes compared to non-PCOS pregnancies

DISCUSSION
The findings support previous research indicating a higher risk of pregnancy complications in PCOS women. Insulin resistance, obesity, and metabolic disturbances may contribute to these adverse outcomes. Proper antenatal care, early screening for GDM and PIH, and lifestyle modifications can help mitigate risks associated with PCOS pregnancies.
A significant challenge in managing PCOS pregnancies is the increased need for medical interventions, including pharmacological treatments and specialized antenatal monitoring. While metformin and lifestyle modifications have shown promise in reducing GDM and PIH risks, the long-term implications of these interventions on fetal health require further investigation. Additionally, individualized care plans, including dietary counseling, physical activity, and psychological support, can help optimize maternal and neonatal outcomes. Future research should focus on personalized therapeutic approaches and exploring novel pharmacological agents to improve pregnancy outcomes in PCOS women.

CONCLUSION

PCOS is associated with increased maternal and neonatal complications. Routine screening for metabolic abnormalities and early intervention strategies are essential to improving pregnancy outcomes. Proper antenatal care can significantly reduce the risk of adverse outcomes and ensure better maternal and neonatal health. A multidisciplinary approach involving endocrinologists, obstetricians, and dietitians is necessary for comprehensive care. Further research on the long-term health of children born to mothers with PCOS is warranted to better understand potential developmental and metabolic implications.

Ethics Approval and Consent to Participate

Ethical approval was obtained from the Institutional Ethics Committee. Informed verbal consent was obtained from all participants.

List of Abbreviations

- PCOS: Polycystic Ovarian Syndrome
- GDM: Gestational Diabetes Mellitus
- PIH: Pregnancy-Induced Hypertension
- FGR: Fetal Growth Restriction
- SGA: Small-for-Gestational-Age
- NICU: Neonatal Intensive Care Unit

Data Availability

Data supporting the findings of this study are available upon reasonable request from the corresponding author.

Conflicts of Interest

The authors declare no conflict of interest.

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