OPTIMIZATION OF PCOS TREATMENT IN WOMEN OF REPRODUCTIVE AGE

Abdurasulova N.A.
2nd year Master's student,
department of Endocrinology
Karimova M.M.
candidate of medical sciences
Fergana Medical Institute Of Public Health
https://doi.org/10.5281/zenodo.17233633

Introduction

Polycystic ovary syndrome (PCOS) is one of the most common endocrine and metabolic disorders in women of reproductive age, with a global prevalence ranging from 6% to 15% depending on the diagnostic criteria used [1]. It is characterized by a complex pathophysiology involving hyperandrogenism, chronic anovulation, and polycystic ovarian morphology, as well as metabolic abnormalities including insulin resistance, obesity, and dyslipidemia [2]. PCOS is a leading cause of female infertility and is associated with long-term health risks such as type 2 diabetes mellitus, cardiovascular disease, and endometrial cancer [3]. The heterogeneity of the syndrome makes treatment challenging, requiring an individualized and multidisciplinary approach. Optimizing therapy for PCOS is essential not only for restoring fertility but also for preventing metabolic and psychological complications, thereby improving quality of life.

Objective

To explore and optimize therapeutic strategies for the management of PCOS in women of reproductive age, focusing on a comprehensive, individualized, and evidence-based approach.

Pathophysiological Considerations

The pathogenesis of PCOS is multifactorial, involving genetic predisposition, intrauterine factors, and environmental influences. Insulin resistance is a central feature in most patients and contributes to hyperinsulinemia, which enhances ovarian androgen production and disrupts follicular development [4]. Hyperandrogenism further aggravates anovulation and clinical manifestations such as hirsutism and acne. Understanding these mechanisms is crucial for developing effective therapeutic strategies.

Materials and Methods

The present work is based on a review of recent international guidelines (ESHRE, ASRM, WHO) and high-quality evidence, including randomized controlled trials and meta-analyses. Particular attention is given to lifestyle

interventions, pharmacological therapy, ovulation induction methods, and assisted reproductive technologies (ART).

Results and Discussion

1. Lifestyle Modification

Lifestyle change is the cornerstone of PCOS management. A modest reduction in body weight (5–10%) through dietary modification and increased physical activity significantly improves insulin sensitivity, restores menstrual cyclicity, and enhances ovulation rates [5]. Behavioral therapy and structured programs combining diet, exercise, and psychological support have been shown to yield sustainable benefits.

2. Pharmacological Therapy

Combined Oral Contraceptives (COCs): COCs remain the first-line therapy for menstrual regulation and management of hyperandrogenic symptoms. They reduce androgen levels, restore cycle regularity, and protect the endometrium [6].

- Insulin-Sensitizing Agents: Metformin is widely used, particularly in women with insulin resistance and metabolic syndrome. It improves insulin sensitivity, reduces androgen levels, and enhances the effectiveness of ovulation induction [7].

- Ovulation Induction: For women seeking pregnancy, letrozole has emerged as the first-line agent, demonstrating superior live birth rates compared to clomiphene citrate [8]. Gonadotropins are reserved for cases resistant to oral agents but require careful monitoring to reduce the risk of multiple pregnancies.

3. Assisted Reproductive Technologies (ART)

In women who fail to conceive with first-line therapies, ART, including in vitro fertilization (IVF), represents an effective option. Advances in stimulation protocols and laboratory techniques have significantly improved outcomes while reducing the risk of ovarian hyperstimulation syndrome (OHSS) [9].

4. Long-Term Management

Beyond reproductive outcomes, PCOS management must address long-term metabolic and psychological health. Regular monitoring of glucose tolerance, lipid profile, and cardiovascular risk factors is essential. Psychological support is equally important, as PCOS is strongly associated with anxiety, depression, and reduced quality of life [10].

Conclusions

Optimization of PCOS treatment in women of reproductive age requires a multifaceted and individualized approach. Lifestyle modification should serve as the foundation of therapy, enhancing the effectiveness of pharmacological and reproductive interventions. COCs and metformin remain key tools in managing

hyperandrogenism and metabolic dysfunction, while letrozole is the preferred first-line agent for ovulation induction in infertility. ART provides an effective alternative for resistant cases. Importantly, long-term follow-up is necessary to address metabolic and psychological comorbidities. A personalized, evidence-based strategy can significantly improve reproductive outcomes, reduce long-term health risks, and enhance overall quality of life in women with PCOS.

References:

1. Bozdag G. et al. The prevalence and phenotypic features of polycystic ovary syndrome: a systematic review and meta-analysis. Hum Reprod. 2016;31(12):2841–2855.
2. Rotterdam ESHRE/ASRM-Sponsored PCOS Consensus Workshop Group. Revised 2003 consensus on diagnostic criteria and long-term health risks related to PCOS. Fertil Steril. 2004;81(1):19–25.
3. Teede H.J. et al. International evidence-based guideline for the assessment and management of PCOS. Hum Reprod. 2018;33(9):1602–1618.
4. Dumesic D.A., Oberfield S.E., Stener-Victorin E. Scientific statement on the diagnostic criteria, epidemiology, pathophysiology, and molecular genetics of PCOS. Endocr Rev. 2015;36(5):487–525.
5. Moran L.J. et al. Lifestyle changes in women with polycystic ovary syndrome. Cochrane Database Syst Rev. 2011;(7):CD007506.
6. Legro R.S. et al. Oral contraceptives for polycystic ovary syndrome. J Clin Endocrinol Metab. 2013;98(10):E1759–E1768.
7. Morin-Papunen L. et al. Metformin therapy improves the menstrual pattern with minimal endocrine and metabolic effects in women with PCOS. Fertil Steril. 1998;69(4):691–696.
8. Legro R.S. et al. Letrozole versus clomiphene for infertility in PCOS. N Engl J Med. 2014;371:119–129.
9. Tarlatzis B.C., Fauser B.C. Ovulation induction in PCOS: current approaches and controversies. Reprod Biomed Online. 2019;39(5):681–693.
10. Dokras A. et al. Increased risk for depression in women with PCOS: a systematic review and meta-analysis. Fertil Steril. 2011;96(1):95–101.