

Long-term Treatment Strategies for a 32-year-old Woman with Polycystic Ovary Syndrome (PCOS): A Case Investigation

Maeliss Pilotnenor*

Department of Obstetrics and Gynecology, University of Lille, 59000 Lille, France

Abstract

Polycystic Ovary Syndrome (PCOS) is a common endocrine disorder that affects women of reproductive age and is characterized by irregular menstrual cycles, hyperandrogenism and polycystic ovaries. This case investigation details the long-term treatment strategies employed for a 32-year-old woman diagnosed with PCOS. The patient presented with persistent symptoms including menstrual irregularities, hirsutism and weight gain despite initial management efforts. A comprehensive, individualized treatment plan was developed incorporating lifestyle modifications, pharmacotherapy and hormonal treatments. Key interventions included a tailored diet and exercise program, metformin for insulin resistance and combination oral contraceptives for menstrual regulation and symptom control. Over a 24-month period, significant improvements were observed in menstrual regularity, reduction in hirsutism and overall quality of life. This case underscores the importance of a multifaceted approach in the long-term management of PCOS and highlights the positive outcomes achievable through personalized treatment strategies.

Keywords: Polycystic ovary syndrome • Oral contraceptives • Menstrual irregularities • Hyperandrogenism • Hirsutism

Introduction

Polycystic Ovary Syndrome (PCOS) is a prevalent endocrine disorder impacting women of reproductive age, with an estimated prevalence of 6-12% globally [1]. Characterized by a triad of symptoms-irregular menstrual cycles, hyperandrogenism and polycystic ovaries-PCOS often leads to a range of complications including infertility, metabolic syndrome and psychological distress. The pathophysiology of PCOS is complex, involving hormonal imbalances, insulin resistance and genetic predispositions. Management of PCOS requires a holistic approach tailored to the individual's specific symptoms and health goals [2]. Effective long-term management strategies are essential for alleviating symptoms, reducing associated health risks and improving quality of life. This involves not only pharmacological treatments but also significant lifestyle modifications, including dietary changes and exercise [3]. The case of a 32-year-old woman with PCOS highlights the need for an individualized treatment plan that addresses both the metabolic and hormonal aspects of the disorder. This investigation explores the integration of various therapeutic strategies, including lifestyle interventions and pharmacotherapy, to manage and mitigate the symptoms of PCOS over an extended period. By detailing the treatment approach and outcomes, this case aims to provide insights into effective long-term management practices for PCOS, offering a model for similar cases in clinical practice [4].

Case Presentation

A 32-year-old female presented with persistent symptoms of Polycystic Ovary Syndrome (PCOS), including irregular menstrual cycles, significant hirsutism and weight gain. The patient's medical history revealed that these

symptoms had been present for several years, with only partial relief achieved through previous treatments. Her initial presentation included an elevated Body Mass Index (BMI) and signs of insulin resistance. The patient reported that her menstrual cycles were highly irregular, with intervals ranging from 35 to 60 days. She also experienced moderate to severe hirsutism, which was distressing and affecting her quality of life. Despite being on intermittent treatment regimens involving oral contraceptives and occasional anti-androgens, the patient had not seen sustained improvement in her symptoms.

Laboratory tests confirmed elevated levels of testosterone and insulin, with normal thyroid function and other hormonal parameters within acceptable ranges. An ultrasound of the ovaries revealed multiple small cysts, consistent with the diagnosis of PCOS. The patient's clinical presentation, combined with imaging and laboratory findings, supported a diagnosis of PCOS with significant symptom burden and associated metabolic concerns. A comprehensive management plan was developed to address the patient's symptoms and overall health. This plan included a combination of lifestyle modifications, pharmacotherapy and on-going monitoring to assess treatment efficacy and adjust strategies as needed. The goal was to achieve better control of symptoms, improve metabolic markers and enhance the patient's quality of life through a tailored, multifaceted approach.

Results and Discussion

Following the implementation of the comprehensive management plan, the patient demonstrated significant improvements in various aspects of her condition over a 24-month period.

Menstrual regulation: The patient experienced a notable increase in menstrual regularity, with cycle intervals averaging 28 to 35 days by the end of the observation period. This improvement was attributed to the use of combination oral contraceptives, which successfully regulated the menstrual cycle and reduced the frequency of menstrual irregularities [5].

Hirsutism reduction: The severity of hirsutism showed marked improvement. Hair growth, as assessed by the modified Ferriman-Gallwey score, decreased from a baseline score of 16 to 10. This reduction was linked to the anti-androgenic effects of the oral contraceptives and the addition of spironolactone to her regimen.

Weight management and insulin sensitivity: The patient achieved a moderate weight loss of approximately 8 kg (17.6 lbs) through a structured diet and exercise program. This weight reduction contributed to improved insulin

*Address for Correspondence: Maeliss Pilotnenor, Department of Obstetrics and Gynecology, University of Lille, 59000 Lille, France, E-mail: maelisspilotnenor@gmail.com

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Received: 02 July, 2024, Manuscript No. jccr-24-146238; Editor Assigned: 04 July, 2024, PreQC No. P-146238; Reviewed: 17 July, 2024, QC No. Q-146238; Revised: 23 July, 2024, Manuscript No. R-146238; Published: 30 July, 2024, DOI: 10.37421/2165-7920.2024.14.1617

sensitivity, as evidenced by a decrease in fasting blood glucose levels and an improvement in the Homeostasis Model Assessment of Insulin Resistance (HOMA-IR) [6].

Quality of life: The patient reported significant improvements in her overall quality of life. Enhanced menstrual regularity and reduced hirsutism led to decreased psychological stress and increased self-esteem. Follow-up assessments using standardized questionnaires confirmed these subjective improvements.

This case illustrates the effectiveness of a multifaceted treatment approach for managing PCOS in a 32-year-old woman with significant symptom burden. The combination of lifestyle modifications, pharmacotherapy and regular monitoring was crucial in addressing the diverse symptoms of PCOS and improving the patient's overall well-being. The success of menstrual regulation in this case underscores the importance of hormonal treatments in managing menstrual irregularities associated with PCOS [7]. Combination oral contraceptives not only provided cycle control but also contributed to a reduction in hirsutism. This is consistent with the established role of oral contraceptives in both regulating menstrual cycles and addressing hyperandrogenic symptoms. The positive outcomes related to weight management and insulin sensitivity highlight the importance of incorporating lifestyle changes into the treatment plan [8]. The weight loss achieved by the patient was beneficial for improving insulin resistance, which is a common concern in PCOS. This aligns with evidence suggesting that weight management can enhance metabolic profiles and alleviate some symptoms of PCOS. Overall, the case demonstrates that a comprehensive, individualized treatment strategy can effectively manage PCOS symptoms and improve the quality of life. This approach not only addresses the hormonal and metabolic aspects of the disorder but also supports the patient's psychological well-being. Future management plans for PCOS patients should consider a similar integrated approach, incorporating both medical and lifestyle interventions to achieve optimal outcomes [9,10].

Conclusion

This case report highlights the effectiveness of a comprehensive and individualized treatment strategy for managing Polycystic Ovary Syndrome (PCOS) in a 32-year-old woman with significant symptom burden. Through a combination of lifestyle modifications, pharmacotherapy and ongoing monitoring, the patient experienced substantial improvements in menstrual regularity, reduction in hirsutism, better weight management and enhanced insulin sensitivity. The successful outcomes observed underscore the importance of addressing both the hormonal and metabolic components of PCOS through an integrated approach. This multifaceted strategy not only alleviated the primary symptoms of PCOS but also contributed to an improved quality of life for the patient. These findings support the need for personalized treatment plans in PCOS management, emphasizing that effective long-term control of the disorder requires a holistic approach tailored to the individual's specific needs and health goals. This case provides valuable insights into best practices for managing PCOS and may serve as a model for similar cases in clinical practice.

Acknowledgement

None.

Conflict of Interest

None.

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How to cite this article: Pilotnenor, Maeliss. "Long-term Treatment Strategies for a 32-year-old Woman with Polycystic Ovary Syndrome (PCOS): A Case Investigation." *J Clin Case Rep* 14 (2024): 1617.