

A Comprehensive Review of Treatment Options for Polycystic Ovary Syndrome (PCOS)

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Abstract

Polycystic Ovary Syndrome (PCOS) is a multifaceted endocrine disorder that affects approximately 6% to 20% of women of reproductive age, depending on the diagnostic criteria used—namely, the National Institutes of Health (NIH), Rotterdam, and Androgen Excess and PCOS Society (AE-PCOS) definitions (Teede et al., 2018). It is characterized by a triad of hyperandrogenism, chronic anovulation, and polycystic ovarian morphology. Beyond reproductive complications, PCOS is closely associated with metabolic disturbances including insulin resistance, type 2 diabetes mellitus, dyslipidemia, obesity, and increased cardiovascular morbidity (Legro et al., 2013; Azziz et al., 2016). These diverse manifestations highlight the need for individualized, multidisciplinary treatment strategies.

Currently, the therapeutic landscape of PCOS includes lifestyle modification, pharmacologic interventions, surgical procedures, and a growing body of evidence supporting integrative and emerging therapies. Lifestyle changes, particularly involving diet and exercise, remain the first-line intervention for overweight and obese women with PCOS, demonstrating benefits across reproductive and metabolic domains (Moran et al., 2011). Pharmacologic options range from hormonal contraceptives to insulin sensitizers and ovulation induction agents such as letrozole, which has emerged as a first-line therapy for infertility in PCOS (Legro et al., 2014). For clomiphene-resistant cases, laparoscopic ovarian drilling remains a surgical alternative. Moreover, novel therapies including glucagon-like peptide-1 (GLP-1) receptor agonists, myo-inositol, and N-acetylcysteine are being explored for their dual reproductive and metabolic benefits (Genazzani et al., 2018).

This review synthesizes current evidence on the treatment modalities for PCOS, providing clinicians with a comprehensive understanding of therapeutic approaches tailored to specific clinical goals—whether targeting ovulatory function, hyperandrogenic symptoms, or metabolic risks. A nuanced approach to PCOS management is critical for optimizing both short-term outcomes and long-term health in affected women.

Keywords

Polycystic Ovary Syndrome, PCOS, treatment, lifestyle modification, pharmacotherapy, ovulation induction, insulin resistance.

