

Polycystic Ovary Syndrome (PCOS): Unraveling the Enigma

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Commentary

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Known since antiquity, the earliest documentation of the features of a disease that is now recognized as Polycystic Ovary Syndrome (PCOS) was in 1721 in Italy. Cystic changes of the human ovaries were also reported in 1844 [1].

More than eight decades ago, a report by Irving Freiler Stein and Michael Leventhal titled, "Amenorrhea associated with polycystic ovaries," published in 1935 has come to be a groundbreaking breakthrough in the realm of reproductive science. Since 1950, over 30,000 publications on the topic have been available in the current medical literature [2].

What was once envisaged as a single disease entity is now increasingly regarded by internists and endocrinologists alike as a complex multifaceted disease with both genetic and epigenetic aspects. Dedicated and orchestrated research efforts have been devoted to unfold all intriguing facets of the disease: epidemiology, genetics, etiopathogenesis, diagnosis, short and long-term consequences and treatment strategies. Here comes a pivotal question: why has PCOS become such a popular frequently spoken-of subject? Is it because it is the most common of all reproductive endocrinopathies among women in the child-bearing period, affecting in its various forms, 1 in every 7-17 women worldwide [2]? Is it because it is linked to other disease entities e.g. type II diabetes mellitus, hyperandrogenism, HAIR-AN syndrome and the metabolic syndrome? Or is it because it is manageable by a number of treatment armamentaria, both medical and surgical? Perhaps all of those are why interest in PCOS research has been steadily growing. As more and more facts about PCOS are being discovered,

our understanding and management strategies are changing.

Metformin and other insulin sensitizers have been used in management of PCOS women, especially the obese where insulin resistance is more prominent [3]. Once contraindicated in early pregnancy, metformin is now not only recommended for continued use in pregnancy, but prenatal exposure to metformin was also associated with increased offspring weight [4].

Clomiphene citrate, once nicknamed the fertility pill, has been used for decades as the drug of choice in the medical initiation of ovulation in anovulatory PCOS women. Things are now changing and the off-label use of letrozole, an aromatase inhibitor, was associated with higher live-birth and ovulation rates among infertile women with PCOS, as compared with clomiphene [3,5].

Medical management of PCOS has witnessed tremendous change, so has surgical management. Progressing from the cumbersome currently obsolete ovarian wedge resection to the minimally invasive laparoscopic ablative surgery, surgical techniques for PCOS have become a second-line management strategy. The 'one size fits all' strategy is currently being seriously challenged. Optimized and individualized surgical management using differing number of drills, power sources, power types, fixed or volume-adjusted dose, unilateral or bilateral techniques has been tested to maximize the benefits, while keeping risks at an absolute minimum [6].

In conclusion, PCOS is common parlance to the lay, internists, endocrinologists and gynecologists. Over the

past 80 years, research on PCOS has witnessed seminal achievements. But, are we there yet? Do we know all or most of the secrets? It seems as if we only see the tip of the iceberg; that deep hidden part is awaiting strenuous efforts to explore. Hopefully, over the coming years, we have a clearer focused image of this most intriguing endocrinopathy.

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