As the most common endocrinopathy of reproductive-age women, polycystic ovary syndrome (PCOS) remains a poorly understood and yet a liberally diagnosed condition. While the exact mechanisms that underlie the chronic course of ovulatory dysfunction and hyperandrogenemia of PCOS still remain elusive, the complexity of the pathophysiological underpinnings and the diversity of recognized clinical sequelae have only expanded since the original description of this condition by Drs. Stein and Leventhal in 1935.

Heterogeneity within the entity PCOS, the somewhat overlapping phenotypic expressivity in the obese and the psychologically stressed, as well as possible racial and ethnic differences in presentation have been sources of confusion at all fronts (i.e., for the clinician caring for women with PCOS, for the researcher engaged in clinical research based on access to biological samples, and for the patients themselves). I have no doubt that the clinician reader will have encountered at least one of the following phrases during consultation with a PCOS patient: “I have trouble losing weight because of my PCOS,” or “I have PCOS because of cysts on my ovaries,” or “I saw four different doctors before I was diagnosed with PCOS,” or “I was placed on a birth control pill to fix my PCOS.” The mushrooming online blogs and PCOS support groups in recent years not only highlight the magnitude of frustration, level of unawareness, and quest for pertinent information relating to their diagnosis that is so obviously manifest in women labeled as “PCOS,” but they also reflect poorly on the perspective, preparedness, and counseling offered by the providers caring for this population.

This textbook is an attempt to share with the reader (both clinician and researcher) the evolution in our understanding of this complex entity (i.e., PCOS) as regards the pathophysiology, the myriad and evolving spectrum of health implications, and the management paradigms from inception to the current “omics” era. The chapters are organized in distinct sections to systematically convey the following: an epidemiological snapshot and diagnostic dilemmas relating to PCOS (Section I); sequentially acquaint the reader on the relevance of genetics and disturbances in the ovary and the hypothalamo–pituitary axis and metabolic derangements as plausible players in the causation of PCOS (Section II); provide a comprehensive coverage of the
relevance of insulin sensitizers and statins, review targeted approaches to managing PCOS-related infertility and hyperandrogenism, and provide a comprehensive overview of the critical role of dietary management that must be deemed as a first-line approach to PCOS management (Section III). Diagnosis of PCOS in the adolescent and pregnancy in PCOS patients carry unique challenges, and surgical intervention (bariatric procedures and ovarian surgery) may be an appropriate consideration for some patients with PCOS; these concepts are comprehensively addressed in Sections IV and V. The last section of this book (VI) on the one hand crystallizes the health burden of PCOS that is recognized to extend well beyond the clinical presentation, and on the other, aims to acquaint readers with vitamin D insufficiency as a plausible pathophysiological mechanism that could impact on the endocrine and metabolic aberrations of PCOS.

It truly has been my privilege to have had this opportunity of bringing together this team of ‘the best and the brightest’ in the field. It is my hope that this work will be deemed as equally meaningful to the clinicians who care for women with PCOS and the researchers who are attempting to understand the complexities of this disorder, and that our collective efforts will directly benefit the population of women with PCOS.

New Haven, CT, USA  Lubna Pal, MBBS, MRCOG (UK), MS, FACOG
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