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Edited by Leo Plouffe and Botros R. M. B. Rizk
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About the editors

Leo Plouffe, MD CM is currently Vice President, Head of Risk Management, Global Pharmacovigilance at Bayer Health Care Pharmaceuticals following his tenure as Head of Women's Health Care US Medical Affairs, also at Bayer. Dr Plouffe started his career as a research scientist over 25 years ago at the Medical College of Georgia, department of Obstetrics and Gynecology, Reproductive Endocrinology and Genetics Section. He achieved the rank of tenured professor before joining Eli Lilly Pharmaceuticals, where he held positions of increasing responsibility in medical affairs and clinical development.

His research interests encompass pediatric and adolescent gynecology, menopausal medicine, contraception, and patient safety. He has authored over 100 scientific papers, book chapters, and abstracts. He is past vice-president of the North American Society for Pediatric and Adolescent Gynecology, and has served on a number of committees and special interest groups at ASRM, ACOG, and SGI. He is a reviewer for several journals in women's health.

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Professor Rizk has worked as a research scientist and clinician in reproductive medicine for more than 25 years. His main research interests include the modern management, prediction, and the genetics of ovarian hyperstimulation syndrome (OHSS), as well as the role of vascular endothelial growth factor and interleukins in the pathogenesis of severe OHSS. He has authored more than 300 peer-reviewed published papers, book chapters, and abstracts. Professor Rizk has edited and authored 18 medical textbooks on OHSS, infertility and assisted reproduction, endometriosis, ultrasonography in reproductive medicine, ovarian stimulation, and the future of ART.

He is past chair of the ASRM international membership committee, member of the scientific advisory board of the Mediterranean Society for Reproductive Medicine, President Elect of the Middle East Fertility Society, on the editorial board of the Middle East Fertility Society Journal, and reviewer for several national and international journals, as well as for the European Society of Human Reproduction and Embryology Task Force on perinatal outcome and congenital malformations of intracytoplasmic sperm injection.

Dedication

To my mentors on this subject, Drs Morrie M. Gelfand, Robert B. Greenblatt, Robert AH Kinch and Paul G. McDonough.

From Drs Gelfand and Greenblatt, I received the passion and enthusiasm to study this topic. From Drs Kinch and McDonough, I received the skillset and discipline to apply evidence-based medicine in the care of these patients.

On a personal level, to my wife Eve, who has supported me through this project as she has through every step of our life journey.

Leo Plouffe Jr.

To the RIZK family for their tremendous contribution to Egypt; my great grandfather Rizk the chief treasurer in charge of the Royal mint and in charge of all financial matters during the reign of Ali Bey the Great in

the second half of the eighteenth century, his grandson Rizk Ghobrial Rizk appointed the Governor of East Delta by Mohamed Ali in 1814, my grandfather Botros Rizk after whom I was named, my father Mitry Botros Rizk, and all the uncles and cousins.

Botros R. M. B. Rizk

Chapter 10 is dedicated to the memory of my dear friend and colleague Andre T. Guay, MD and for his immense contributions to the advancement of clinical endocrinology, especially sexual function in men and women.

Abdulmaged M. Traish

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Preface

A wide range of disease states that affect women are associated with dysfunctional androgen production, either deficiency or excess states. This encompasses common disorders, such as polycystic ovary syndrome (PCOS) or acne and hirsutism, as well as rare conditions, such as congenital adrenal hyperplasia. Thousands of original scientific publications and hundreds of scholarly books have covered these conditions over the years. Why does the medical community need one more book on the subject?

In reviewing the available reference sources, we were struck that the underlying theme was focusing on the specific medical conditions affecting women, and working back to the underlying androgen dysregulation associated with the condition. This is an extremely valuable approach and has served the practitioner very well over the years. However, it is often helpful to consider a new perspective to stimulate new insights into a medical problem. How could we bring about an element of novelty?

What if we first focused on androgens and considered how they impact normal physiology, from the receptor all the way to the entire body? What if we focused on a variety of androgens, at the biochemical level and their respective physiological impact? What if we considered androgen effects not just in women but also in men? What about seeing how much we can learn from the endocrinology of androgens in rare androgen-linked conditions that we can apply to our understanding in the care of all women? What can medical practitioners with a wide range of specialty

and clinical backgrounds learn from one another in a scientific forum? We thought such an approach may help reframe many of the issues of androgens in women's health.

This book represents an amazing collaboration of scientists that bought in to our novel approach, and agreed to participate in this experiment. We reached out to many specialists in the field. All of the contributing authors valued the opportunity and provided their unique and crisp insights in a way that we hope will open up new ideas, and hopefully drive further scientific progress.

At the same time, we wanted to make sure this book would be of practical value for every clinician. The clinical chapters provide a clear framework to work-up and manage patients. They are complemented by many chapters on the intricacies of making an accurate diagnosis, also essential for the clinician. And last but not least, the remaining chapters provide highly relevant insights into the scientific underpinnings of these complex conditions.

We hope you will find this book valuable and consult it frequently. Above all, we hope it will help you take even better care of your patients, and for some of you, trigger new research ideas.

Good reading.
Leo Plouffe Jr
Botros R. M. B. Rizk