Varicocele and male infertility: current concepts and future perspectives

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This Special Issue of Asian Journal of Andrology is fully dedicated to the thematic area of Varicocele, which has been one of the most controversial issues in the field of Urology, Andrology, and Reproductive Medicine. Recognized as a clinical entity for over a century, varicocele from Latin: varix (dilated vein) and from Greek: kele (tumor) still elicits heated debate among scientists and clinicians on an arguable negative effect on male fertility and gonadal function and has fueled thousands of scholarly articles since its first report in the 18th century.

Varicocele and Male Infertility: Current Concepts and Future Perspectives contains the seminal work of renowned scientists and clinicians from 15 countries on five continents. In 29 chapters, comprehensive reviews on the pathophysiology,¹–³ epidemiology,⁴ diagnosis,⁵–⁸ and management⁹–²⁰ of varicocele are presented; they dissect our current knowledge about varicocele from a multitude of angles. Among them, two systematic reviews critically summarize the clinical practice guidelines and best practice statements for diagnosis and management of varicocele in adults and adolescents.¹⁷,¹⁸ Moreover, three meta-analyses summarize the evidence on the effect of varicocele on semen parameters²⁹ and the role of repairing varicoceles in men with azoospermia³⁰ and in the male partners of infertile couples that will be subjected to assisted reproductive technology (ART).²⁰

These meta-analyses are of particular interest to all health care providers and scientists alike because it revisits the effect of varicocele on conventional semen parameters in the face of the latest (fifth) edition of the World Health Organization (WHO) manual for the laboratory examination of human semen.⁷ As readers may be well aware of, the newest WHO manual not only changed the reference values for interpreting semen analysis results but also updated the methods for conducting such analyses.

Marmar, whose seminal work on subinguinal microsurgical varicocelectomy lead to a paradigm shift in the way we now treat varicoceles, compiled a historical review of varicocele surgery.¹⁹ Two original articles were included; one presenting novel findings of an association between proteomics signatures in infertile men with clinical varicocele and sperm mitochondrial dysfunction,¹ and another commenting on the usefulness of antegrade scrotal sclerotherapy as an alternative method for varicocele treatment to the commonly used open surgical repair.¹² In addition, six commentary articles written by experts with vast clinical experience discuss challenging clinical conditions faced by health care practitioners dealing with males with varicocele.¹¹–¹⁶ Furthermore, opportune is the review of Chiles and Schlegel, which provides a critical appraisal of the cost-effectiveness of varicocele surgery in the era of ART.²⁷

This Special Issue of Asian Journal of Andrology includes a multinational authoritative review, including 19 institutions across 12 countries about how to track research impact by selecting the appropriate metrics.²⁸ In the years to come, it will be interesting to learn how these various bibliometrics reflect the impact of this Special Issue of Asian Journal of Andrology. Equally interesting will be to know if the predictions of Lamb and Lipshultz’s group come true with regards to the future use of molecular biomarkers for the diagnosis and management of adolescents and adults with varicocele.²⁹

We are very fortunate indeed that Thomas Jr accepted our invitation to write the foreword.³⁰ His humbleness and gentle manners hide a giant who contributed greatly to the field of male infertility, including varicocele and microsurgery. Tony Thomas has taught a legion of young doctors from so many different places and countries for so long, making it impossible to measure by any scientific means the impact of his work.

We as guest editors are grateful to the Chief Editor and the Editorial staff of the Asian Journal of Andrology for their impeccable support. Ms. Danqing (Dan) Ren (Scientific Editor), who was in charge of our Special Issue, was one of the best editorial professionals we could have asked for. She was diligent, organized, hardworking, and a very understanding individual. We would like to thank her and the members of her team for their enormous dedication in compiling this Special Issue. This Special Issue is recommended to students and researchers in the biological and medical sciences and clinicians involved in the management of infertile couples, including urologists, andrologists, gynecologists, embryologists, and reproductive specialists interested in following the exponential growth in the knowledge of varicocele. Due to the multidisciplinary nature of varicocele as a cause of male infertility, unsolved problems present themselves and the opportunities for advancement continue to expand. We hope our readers will appreciate this Special Issue of Asian Journal of Andrology and share our excitement in the study of varicocele.

REFERENCES
¹ Cho CL, Esteves SC, Agarwal A. Novel insights into the pathophysiology of varicocele and its


