Preface

Male Infertility: Is It the Key to the Future of Reproductive Health?

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Editor

Male infertility is a common and devastating disease. Despite the advances in the field, we still struggle to identify, diagnose, and treat this condition. Furthermore, the field of reproductive urology trails at least 20 years behind that of female infertility. With 1% of children in the United States now born through in vitro fertilization and up to 2% to 3% in Europe, some recent high-profile papers highlighting declining sperm counts around the world, and other data linking male infertility to poor individual and familial somatic health, it is vital that we focus our efforts on understanding this disease.

Fortunately, the future for our field looks bright. The articles written here serve to demonstrate the tremendous recent advances to address these issues as well as to provide a glimpse of what the future might hold. One analogy that serves to highlight the cusp of the revolution that our field is currently standing on is that of oncology. Currently, aspects of male infertility are roughly where cancer was at the advent of chemotherapy and targeted radiation. At the advent of these treatments, we did not understand the fundamental biology of specific tumors, did not have databases to track outcomes, poorly understood what patients' goals of treatment were, did not have broad insurance coverage of these treatments, and, hence, could not offer targeted therapies that optimized outcomes and helped patients achieve their goals. Now we understand the biology of specific tumors and have tied this to robust data in clinical outcomes. This has allowed a revolution in diagnostic tools. Furthermore, insight into the fundamental biology of various subtypes of cancer has facilitated a number of new medical therapies, checkpoint inhibitors being 1 example. Similar advances in male infertility have the potential to impact not only infertile men but also their families as well as global health through the reduction in transmission of deleterious genetic and epigenetic variants to offspring and grand-offspring.

While male infertility is certainly much further along than cancer at the advent of therapeutic agents such as cisplatin, the lack of clear understanding of the biology, epidemiology, pathogenesis, and health services research implications of the disease has hampered transformative research in the field. These articles highlight some of the most promising areas of male infertility and, it is hoped, convince the reader that the future of our field has never been brighter.

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