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EDITORIAL

Introduction to the special issue on precision medicine in reproductive and sexual dysfunction

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Recent developments in personalized medicine are transforming reproductive and sexual health, offering customized treatments that improve patient outcomes. This special issue of *UroPrecision* showcases groundbreaking research and clinical insights, emphasizing the value of individualized approaches in tackling complex sexual health issues. By integrating biomarkers, artificial intelligence (AI), and innovative therapies, these studies highlight the potential of precision medicine to address conditions like Peyronie's disease, male infertility, and sexual dysfunction, while addressing ethical concerns in telemedicine and patient-focused care.

This editorial presents an overview of the included articles, each offering a unique perspective on how precision medicine can improve diagnostic accuracy, therapeutic interventions, and overall patient outcomes in reproductive and sexual health.

Howell et al.[1] present a detailed review of Peyronie's disease, focusing on its inflammatory and fibrotic origins and the psychological impact on patients. The article highlights the benefits of personalized treatments, such as traction therapy and intralesional injections, for correcting curvature deformities. Emerging therapies, including regenerative techniques and advanced imaging, point toward more customized solutions, offering hope for improved outcomes.

Kandil et al.[2] examine the transformative role of AI in treating non-obstructive azoospermia (NOA) during surgical sperm retrieval (SSR). From predictive models for patient counseling to image recognition in micro-TESE procedures, AI is revolutionizing male infertility management. These advancements reduce errors and improve the identification of viable sperm, solidifying AI's role in reproductive medicine.

Khalil et al.[3] provide a scoping review of the effects of Rezum therapy, a minimally invasive treatment for benign prostatic hyperplasia (BPH), on sexual function. The study reveals that Rezum therapy preserves sexual function better than traditional surgical approaches, such as transurethral resection of the prostate (TURP). This underscores the importance of precision interventions in balancing symptom relief with the preservation of sexual health.

Yassin et al.[4] investigate testosterone's role in men's health, particularly its effects on cardiovascular, metabolic, and reproductive systems. Using biomarkers and genetic research, the authors demonstrate how precision medicine enables customized testosterone therapies tailored to individual hormonal, genetic, and lifestyle factors, optimizing outcomes while reducing risks.

Almuhaideb et al.[5] explore the ethical challenges of telemedicine in sexual health care. While telemedicine improves accessibility and convenience, it raises issues like data security, informed consent, and equitable access. The authors recommend integrating telemedicine as a supplement to traditional care, ensuring ethical standards and personalized patient management.

Al Saeedi et al.[6] spotlight an unusual case of tubular ectasia linked to obstructive azoospermia. Their meticulous diagnosis and microsurgical approach underscore why one-size-fits-all plans fall short in complex infertility scenarios. The team urges clinicians to rule out malignancies before jumping to invasive steps—a win for precision medicine's "less is more" philosophy.

This special issue of *UroPrecision* reflects the potential of precision medicine to advance reproductive and sexual health. By embracing innovative technologies, personalized interventions, and ethical patient-centered care, these studies pave the way for a future

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where tailored treatments become standard, ultimately enhancing the quality of life for patients worldwide.

AUTHOR CONTRIBUTIONS

Kareim Khalafalla was solely responsible for the conceptualization and drafting of this editorial.

CONFLICT OF INTEREST STATEMENT

Kareim Khalafalla is one of Editorial Board Members of *UroPrecision*. He was excluded from the peer-review process and all editorial decisions related to the acceptance and publication of this article. Peer review was handled independently by the other editors to minimize bias.

ETHICS STATEMENT

Not Applicable.

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