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Nota di contenuto	Current and Future Applications of Artificial Intelligence to Diagnose and Treat Male Infertility.-Immune Regulation in the Testis and Epididymis -- Innate Antiviral Defense of the Male Reproductive System -- Basal and Immune Cells of the Epididymis: An Electron Microscopy View of Their Association -- Molecular Pathways Implicated in the Differentiation and Function of Epididymal Basal cells -- Effect of Endocrine Disruptors on Testicular Function -- Unveiling the research void: exploring the reproductive effects of PFAS compounds on male health -- Computational Approaches in Spatial Transcriptomics for the Study of Mammalian Spermatogenesis -- scRNA-Seq-based transcriptome profiling and relevant bioinformatics approaches to

uncover novel insights in studying human spermatogenesis -- A Comprehensive Bibliometric Analysis of Orchitis Research from 1980 to 2023 -- Non-Hormonal Contraception: Current and Emerging Targets -- Proteostasis as a Sentry for Sperm Quality and Male Fertility -- Sperm DNA Fragmentation and Fertility -- The Biology and Regulation of Spermatogonial Stem Cells in the Niche -- The interacting Fat1 and Dchs planar cell polarity (PCP) proteins supported by Fjx1 serve as heterodimeric intercellular bridges crucial to support spermatogenesis -- Extracellular Vesicles in the Aging Male Reproductive System: Progresses and Perspectives -- Intraflagellar transport (IFT) and sperm formation -- Microtubule-associated proteins (MAPs) are multi-functional cytoskeletal proteins in the testis that regulate spermatogenesis -- Testis is a sanctuary site for HIV-1.

Sommario/riassunto

This book bridges the gap of basic research in male reproductive biology and its relationship to clinical studies. Bringing together a group of senior investigators with decades of experience in research and clinical investigation and keen interest in collaboration between the two areas, this book provides a balanced treatment of technical and basic research insights and cutting-edge findings, while introducing new ideas for clinical applications of this research. Section I is devoted to clinical aspects including testis biology, prostate biology, and spermatogenesis by senior investigators of male infertility treatment, particularly non-obstructive azoospermia. Section II presents the latest findings in male reproductive biology from a basic research perspective, as well as covering cutting-edge technology such as scRNA-Seq, scATAC-Seq, DNA chromatic accessibility and organization studies, genetic models, cell biology, molecular biology, and biochemistry on testis biology, and spermatogenesis. This book offers not only a cohesive summary of new findings and concepts in basic and clinical male reproductive research, it analyzes and assembles these concepts into a roadmap for the next decade of translational research, bringing lab discoveries to the bedside.