
Preface

Infertility, or involuntary childlessness, is customarily defined as the failure of a couple to conceive after 12 months of unprotected regular intercourse. It has been estimated that 10–15 % of couples seek medical assistance for fertility evaluation, and the problem is apparently equally shared between male and female partners. However, after extensive evaluation of both partners by routinely used tests and without physical or endocrine abnormalities, up to 30 % of infertile couples remain childless devoid of identifiable causes—leading to a diagnosis of unexplained infertility.

Potential etiologies of unexplained infertility include couples' miscomprehension of the concept of the female fertile window, improper coital techniques, erectile dysfunction, and molecular and functional causes of male and female infertility. Interestingly, contemporary advanced technologies have demonstrated various ultrastructural, molecular and genetic etiologies in male or female partners with unexplained infertility. Men with unexplained infertility typically have normal semen parameters with no demonstrable abnormalities in their history, physical or endocrinological examination. Possible underlying causes of unexplained male infertility include mainly immune, humoral or cellular sensitization against sperm, genetic defects, sperm dysfunction and fertilization incompetence.

Even more interestingly, highly intricate testing methods provide a great deal of information about the potential contribution of female factors in UI. Cervical hostility, endometrial receptivity problems, fallopian tube dysfunction and oocyte quality may all weaken female fertility potential. Further, immunity against sperm, genetic causes, oxidative stress and subtle foci of endometriosis are some of the conditions that need to be evaluated in a patient with unexplained infertility, in order to understand the underlying cause(s) of unexplained infertility. These conditions may serve as a guide in any future research plans to solve the infertility dilemma.

This book introduces unexplained infertility, its definition and incidence in both males and females. The current use of the 2010 WHO guidelines in semen analysis has an impact on the diagnosis of unexplained infertility. The pathophysiological factors of this type of infertility include physical, immunological and genetic abnormalities. Factors that cause the development of oxidative stress and a variety of environmental factors have a role in the etiology of unexplained infertility. The management of unexplained infertility is complex, as its diagnosis was likely made by exclusion of various potential causes of infertility. Unexplained infertility may be managed through medications that may help normalize the endocrine profile or soothe immunological imbalances. Active interventions and the outcomes of each treatment modality are also considered. Couples dealing with a diagnosis of either male or female factor unexplained infertility very often resort to assisted reproductive technology to achieve conception, and the outcomes of these interventions will be discussed.

This textbook, the first of its kind, is intended to provide the reader with a thoughtful and comprehensive review of the clinical and scientific significance of unexplained infertility. We had invited leading, internationally recognized clinicians and basic scientists with expertise in male and female infertility to contribute their thoughts on these various aspects of

unexplained infertility. The experts from the various sub-specialties have contributed for this textbook. This book puts together information that serves as an invaluable tool both for the basic scientists with an interest in reproductive medicine and for clinicians working in the field of infertility (e.g., urologists, andrologists, gynaecologists and reproductive endocrinologists and embryologists). It is hoped that the topics discussed in this book serves to enlighten the readers regarding unexplained infertility and provide an in-depth perspective of this form of infertility.

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Unexplained Infertility

Pathophysiology, Evaluation and Treatment

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