Book Review

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Genetic Disorders of Human Sexual Development. By Leonard Pinsky, Robert P. Erickson, and R. Neil Schimke. New York: Oxford University Press, 1999. Pp. 410. $85.00.

The front cover of *Genetic Disorders of Human Sexual Development* claims that it is "not a conventional textbook. It is seldom dogmatic, frequently presents alternatives, highlights speculation, raises questions, and attempts to provide answers." I would agree with these sentiments—but perhaps not for the reasons intended by the authors.

The book begins with four introductory chapters that describe normal gonadal and sexual development and the clinical approach to the associated genetic abnormalities. The introductory chapters are well written and presented, and they provide a reasonable, general overview for readers unfamiliar with the field.

The bulk of the book is a series of chapters describing disorders of gonadal and sexual maldevelopment, as well as genetic forms of gamete failure. These chapters cover a very wide range of clinical disorders, including those of gonadotropin insufficiency, gonadotropin action, gonadotropin excess, steroidogenesis, sex-hormone sensitivity, and syndromes of sexual maldevelopment. A list of chromosomal abnormalities associated with these disorders is also provided. The coverage in this section varies tremendously and does not always reflect the clinical importance of the disorder. For example, cryptorchidism and hypospadias are each given a very brief, half-page description (in a book of almost 400 pages), whereas more-rare disorders (see the example of 9p deletions below) are given greater prominence. Since the book attempts to cover a very wide range of subjects, essential and accurate details are often lacking.

To examine the text more carefully, I read the sections concerning two anomalies with which I am familiar: duplications of 1p that are associated with 46,XY sex reversal and deletions of 9p that are associated with 46,XY gonadal dysgenesis. I was surprised to see that the former type of anomaly was not included; reading about the latter type of anomaly proved disappointing. Although several pages are dedicated to 9p deletions and sexual ambiguities, the information presented is not always accurate and is sometimes misleading. In the section entitled "Autosomal Aneusomy and Sexual Maldevelopment," the authors state that "the critical region for sex reversal appears to be at or distal to masker [sic] D9S1799 (Guioli et al 1998)." Unfortunately, both the marker and the reference are incorrect (they should be D9S1779 and Flejter et al. [1998], respectively). In the chapter entitled "Autosomal Disorders," 9p alterations are described at length, but the mapping information is out of date. Other sections of the book include more-current mapping information on the 9p alterations. In the introductory chapter, this topic is again discussed, under the subheading "A Possible Sex Differentiation Gene on 9p." I was surprised that this was not listed in the index—and even more surprised to discover that the 9p gene was placed distal to D9S1770! In addition to these errors, the authors suggest that a ZFY-related gene might be responsible for the phenotype. This could be misleading for someone who is new to the field. A zinc-finger gene was mapped to 9p by hybridization several years ago; however, since there are estimated to be at least 100 zinc-finger–containing genes in the human genome, it is not surprising that at least 1 of them is on 9p.

The omissions on the subject of 9p deletions were also surprising. I was disappointed that there was no mention of the fact that, in a book aimed at a clinical audience, the clinical features of the monosomy 9p syndrome and those of the 9p sex-reversal syndrome are due to independent loci. Also missing was the possibility of sex reversal in the absence of somatic anomalies associated with distal 9p deletions.

This book is aimed at "medical geneticists, genetic counselors, endocrinologists, gynecologists, urologists and students who need fully-referenced information about the genetic aspects of human sexual maldevelopment." Because of its lack of accuracy on some points, I feel that researchers in the field should not use it as a primary resource. Genetic counselors should be aware that mutation frequencies for particular genetic disorders (e.g., SOX9 mutations and campomelic dysplasia) are not always provided. Furthermore, in cases in which the gene for a disorder has not been identified, information concerning the mode of inheritance of the disorder is often vague. However, the breadth of the book may make it useful to clinicians who need rapid access to genetic information about human sexual development.

Bearing these comments in mind, I would opine that this volume is a courageous attempt to bring together, under a single cover, a large quantity of information in a rapidly developing field. For that, the authors must be applauded.

REVIEWED BY KEN MCELREAVEY

Institut Pasteur
Immunogenetique Humaine
Paris

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