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Book Review

Herman E Wyandt and Vijay S Tonk (eds): Atlas of Human Chromosome Heteromorphisms, 279 pp, Dordrecht, Kluwer Academic Publishers 2004 ($154.00) ISBN: 1402013035.

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This book is one of the first comprehensive reviews of normal human chromosomal heteromorphisms. Chromosomal heteromorphisms are defined as the microscopically visible regions on chromosomes that are variable in size, morphology and staining properties in different individuals. Distinguishing these normal chromosome variants from clinically significant variations in chromosome morphology is critical in interpreting clinical cytogenetic studies. The first half of the book includes brief summaries of banding techniques and other technologies, including FISH, that have been used for studying chromosome heteromorphisms. Individual chapters review studies of heteromorphisms in normal populations and select clinical populations. Brief reviews are also provided for euchromatic variants and the use of heteromorphisms in paternity testing and determination of origin of chromosome abnormalities. The molecular characterization of some classes of repeat sequences in heteromorphic regions and the origin of alpha satellite repeat arrays of centromeric chromosome regions are also discussed.

The second half of the book is an atlas of heteromorphisms for each individual chromosome. Each section includes an ideogram of the chromosome, plates of examples of chromosome heteromorphisms and a brief summary of the heteromorphisms for each chromosome. Heteromorphisms that may have clinical risk or can be confused with rearrangements that do have significant risk are discussed.

Distinguishing normal heteromorphisms from clinically relevant chromosome abnormalities is a task that is faced daily by all clinical cytogenetics laboratories. Therefore, this atlas will be a very useful reference book for not only every clinical cytogenetics laboratory but also for any clinician or counsellor who receives cytogenetic reports and provides the results to patients.

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