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Book Reviews

PREVENTION OF NEURAL TUBE DEFECTS: The Role of Alpha-Fetoprotein. UCLA Forum in Medical Sciences. No 20. B.F. Crandall and M.A.B. Brazier (eds.) Academic Press, New York, 1978 264pp.

Congenital malformations account for a major portion of infant deaths and contribute greatly to morbidity and mortality in the post-infant years. During the past two decades we have witnessed improvement in survival of malformed infants, but the problems of management of residual handicaps have increased as a result. Despite some impressive gains, the etiologies of the vast majority of birth defects remain unknown, and true prevention is still beyond our reach. With the recent development of antenatal diagnostic techniques, prenatal detection of the defective infant, followed by termination of pregnancy, has become an acceptable alternative to prevention for many women and their physicians.

This book, the proceedings of a symposium held in Los Angeles in January 1977, sets forth the state of the art in the use of alphafetoprotein for the detection of neural tube defects. The text is divided into three broad categories: the biochemical and biologic aspects of AFP; the embryology, etiology, and epidemiology of NTDs, together with a discussion of the management of survivors; the methodologies for screening for and detecting NTDs in utero.

Chapters of particular interest in the first section include one dealing with the isolation and properties of AFP by Erkki Ruoslahti, and one on the developmental and biologic characteristics of AFP by Elliot Alpert. Several chapters in the second section should be of interest to teratologists, particularly those dealing with NTDs in the clinical setting. Bernard Towers provides a succinct summary of the pertinent aspects of neural tube development, and Lowell Sever condenses the complexities of the epidemiology of NTD's in a very capable manner. Stephen Cederbaum briefly reviews some of the genetic aspects of NTDs and provides sufficient references for the reader who is interested in greater detail. One of the outstanding chapters, authored by David Shurtleff and Jan Lamers, considers the clinical problems in the management of the person with myelodysplasia. This is a subject on which several texts have been written, and yet in 17 pages the authors have provided an elegantly concise summary of the field. They cover the clinical management and results of treatment, including such aspects as survival, intelligence, mobility, educational-employment-social status, acquired morbidity, and care cost estimates.

The third section of the text is largely a reporting of experience with AFP assay systems, and is the section of the book most subject to obsolescence as experience accumulates. The chapter on pitfalls and problems in the interpretation of AFP data by Lorrin Lau and Susan Linkins discusses the myths and misuses of the "normal range." The authors make a good case for not using the normal range but rather a percentile distribution. They argue that pregnancy termination decisions should be based on a variety of factors and not simply on the finding that AFP is more than 2 or 3 standard deviations above the mean.

At the end of the text are three brief panels on AFP assays, medicolegal aspects, and maternal serum screening. These are summary statements and do not add much to the preceding chapters.

The book is well produced and is a fairly concise account of the state of the art as of January 1977. Although all of the information is available in the literature, it is helpful to have a single source such as this book. The references provided are quite adequate to enable the interested reader to explore any area in more detail. The book is of interest primarily to clinical teratologists, particularly those dealing with NTD's, but it should also be of some interest to other workers, as it demonstrates the synthesis of basic and applied science to the management of a large problem in human health.

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