

## Book Reviews

**CEREBRAL DYSGENESIS: EMBRYOLOGY AND CLINICAL EXPRESSION.** 1992. By Harvey B. Sarnat. Published by Oxford University Press. 473 pages. \$CDN 105.00.

This book is a definite requirement for any resident in Neurology or established clinician with an interest in cerebral dysgenesis. The author has succeeded in presenting the complex array of central nervous system malformations in a logical, thoughtful manner combining the right mixture of normal human nervous system development with alterations of the maturational processes and their clinical pathological expressions.

The first chapter presents a clear yet detailed description of the principles and processes underlying maturation of the human nervous system and lays the foundation for understanding the pathophysiological mechanisms involved in the alterations detailed in the later chapters. There is a section on cyto-differentiation combining a discussion of results of his own work and that of others in this field. The latter part of this chapter introduces some clinically relevant structural abnormalities identified on CT scan or pathology as they relate to different stages of maturation. This chapter discusses relevant molecular biologic strategies not found in other embryological texts.

The second chapter defines a lexicon and introduces a general overview of categories of disorders of neural induction and maturation. Chapter 3 highlights the usefulness for a clinician of recognizing various dysmorphic features in directing investigations towards a malformation and the relevance of ancillary investigations. There is good use of clinically relevant examples.

The subsequent 4 chapters sub-divide the major categories of the anomalies according to specific regions or cellular events. Chapter 4 deals with the category of midline forebrain anomalies. Disorders such as prosencephaly holoprosencephaly and colpocephaly are discussed in relation to a variation on severity of the same pathophysiological anomaly. Chapter 5 deals with disorders of neuroblast migration ranging from disorders occurring earlier in development such as lissencephaly, the most severe form, to anomalies occurring later in development, such as small areas of heterotopia following lesions in the prenatal period of the preterm infant. Disorders such as Dandy-Walker, Chiari malformations and Klippel Feil Syndrome are discussed under the heading of Developmental Disorders of the Posterior Fossa. Certain neurocutaneous diseases are discussed under the category of primary cytological dysgenesis. These chapters are masterfully presented with an appropriate discussion of pathophysiological basis and clinical and neuroanatomical features that include photographs of dysmorphic features, CT scans, and/or gross anatomical specimens and relevant microscopic sections.

The concluding chapter 8 provides a welcome, thought provoking, discussion of the issue of evolution and embryogenesis comparing and contrasting phylogeny and ontogeny. Sarnat uses his broad knowledge base as a comparative anatomist and obvious passion for the subject material to provide a perspective on the emergence of the human brain. This book is an accomplishment of what the author set out to do. It has integrated the basic scientific knowledge of neuroembryology with the array of clinical dysgenetic entities in a manner that is logical, clear, practical and relevant to the practice of neurology. We must congratulate the author for putting together an excellent text that will be appreciated by all with an interest in cerebral dysgenesis.

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**MR ANGIOGRAPHY: A TEACHING FILE.** 1993. Edited by Michael Brant-Zawadzki, Orest B. Boyko, Maureen C. Jensen and Gary D. Gillan. Published by Raven Press Limited. 259 pages. \$CDN 98.00 approx.

*MR Angiography: A Teaching File*, contains 100 cases covering a wide range of cerebrovascular disease which are presented with a brief clinical history followed by MR or CT images of the head and subsequent MR angiography. Correlative conventional angiography studies are included in the majority of the cases.

The quality of the images is uniformly good throughout and there are sufficient markers and description included to help the reader orient and analyze the images.

The text is brief and to the point, giving the findings and a short discussion of the significance of the findings with suggestions on how to optimize the MRA images and avoid pitfalls. For those who prefer learning by a case approach, the text is quite effective in providing numerous clinical examples where MRA can be applied and in pointing out its limitations. The text assumes an advanced knowledge of MR and MRA. The case discussions provide brief explanations of the physical basis behind important findings and artifacts, but the emphasis is on the recognition and significance of the abnormalities as opposed to details of their origin.

Clinical problems are demonstrated where MRA has been a useful adjunct to conventional angiography and its role in both diagnosis and follow-up is demonstrated.

This book is interesting with excellent examples correlating MR, MRA and conventional angiography findings as well as numerous valuable teaching points. It would be useful for those who have at least a basic knowledge of MR and MRA techniques and would like to see more examples of pathology with conventional angiographic correlation.

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**SKULL AND SPINE IMAGING: AN ATLAS OF DIFFERENTIAL DIAGNOSIS.** 1994. First Edition. By Ronald L. Eisenberg. Published by Raven Press Ltd. 302 pages. \$CDN 137.00 approx.

This atlas is intended to provide radiologists, neurologists and neurosurgeons with differential diagnoses based on pattern recognition in neuroimaging studies. Modalities include plain radiographs, myelograms, CT and MR. There are no angiograms. The book is divided into two main sections, skull and spine. Within each section there are multiple chapters based on specific patterns, i.e., multiple intracranial calcifications. These chapters present a comprehensive differential diagnosis with written description of imaging findings and comments helpful in differential diagnosis. A few examples are illustrated in each chapter.

The book is well written and easy to read. The differential diagnoses are well organized and comprehensive. The added comments are quite helpful. There is an emphasis on plain radiography. In terms of cross sectional imaging modalities, the emphasis is on CT. Some of the CT and MR images are poor quality. Findings on different modalities (plain film, CT, MR) for a given entity have to be searched for in multiple different chapters.

The main strength of the book is in the plain radiographic images. It is somewhat inadequate for the more advanced imaging