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## **Magnetic Resonance in Multiple Sclerosis**

D.H. Miller, J. Kesselring, W.I. McDonald, D.W. Paty and A.J. Thompson

*AJNR Am J Neuroradiol* 1999, 20 (6) 1182  
<http://www.ajnr.org/content/20/6/1182>

This information is current as  
of April 18, 2024.

### **Magnetic Resonance in Multiple Sclerosis**

D.H. Miller, J. Kesselring, W.I. McDonald, D.W. Paty, A.J. Thompson, Cambridge University Press, 1997, 171 pp, \$85.00

This small monograph represents the efforts of five authors. Three of these authors are from London, England, one is from British Columbia, Canada, and the other from Valens, Switzerland. One of the authors indicates in the first chapter that a primary aim of the book is to reduce errors in diagnosing multiple sclerosis by imaging and clinical means. In a small, untitled, unsigned paragraph prior to the title page there is an additional assertion that the text provides a comprehensive review of the benefits and limitations of MR study of multiple sclerosis. The former purpose is reasonable, and the book meets this objective.

The book contains seven chapters, three appendices, collective references, and an index. Chapter one is a prologue. Succeeding chapters include techniques, the spectrum of abnormalities in multiple sclerosis, the differential diagnosis, assigning prognosis, pathogenesis and mechanisms of disability, and monitoring treatment trials.

The majority of the nearly one hundred illustrations are MR images. They are mainly spin-echo images in various planes of the brain, spine, and orbits. These are of lower quality than many currently available in textbooks; they are of a somewhat low-contrast appearance with some peripheral decrease in brightness. For example, in Figure 4.34, the sagittal view demonstrates the Chiari malformation, but fails to display the cervical syrinx because the signal in the upper cervical cord was too weak. Other images appear quite grainy. Although the techniques of fluid attenuated inversion recovery and contrast-enhanced magnetization transfer were discussed, there was no extensive use of these sequences for illustrating lesions. Although most abnormalities could be seen, the judicious use of arrows might have helped the reader considerably. The writing is clear, concise, and easy to follow. There are many useful facts from both clinical and imaging sources. The references are placed parenthetically within the text or legends. References spanned from 1903 to 1997, with the majority of papers cited being from the late 1980s and early to

mid 1990s. A table of references in alphabetic order is found following the last appendix.

The most interesting chapters from a radiologist's standpoint are those describing the spectrum of abnormalities in clinically definite multiple sclerosis and the chapter describing differential diagnosis. The former chapter describes, in detail, the variety of lesions found with "proved" multiple sclerosis and the most helpful findings to distinguish plaques from similar lesions caused by other diseases. The chapter on differential diagnosis includes entities that mimic multiple sclerosis either radiologically or clinically. Although the list and descriptions are fairly complete, there was no mention of either eclampsia or hypertensive encephalopathy as causes of white matter lesions. Additionally, the chapter on assigning prognosis explains how MR findings are being used to predict the evolution and natural history of multiple sclerosis-like syndromes. For neuroradiologists whose referral base includes large numbers of multiple sclerosis patients, this publication would be useful. Within the chapter entitled "Monitoring Treatment Trials," three appendices are present that contain the ideas of researchers regarding the use of MR imaging in research trials for multiple sclerosis. The reader will find the guidelines of the MR Imaging Task Force of the United States Multiple Sclerosis Society, the recommendations for the use of MR imaging in these trials and core protocols for the use in the trials. This information would be of greatest use to secondary investigators in multicenter studies. It is of limited value for general neuroradiologists, fellows, and radiology residents. I believe that anyone who reads this book will certainly have a better understanding of the multiple functions of imaging in the diagnosis and management of patients with multiple sclerosis and should certainly make fewer diagnostic errors. Nonetheless, I don't think the adjective "comprehensive" is applicable to this small monograph. This publication appears directed more toward neurologists than to radiologists.