

BOOK REVIEW

Neuroimaging Clinics: Central Nervous System Infections

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INTRODUCTION

The recent Covid-19 pandemic highlighted the potential for infectious diseases to cause catastrophe of biblical scale with unprecedented speed. Within months of onset, the pandemic almost brought to their knees the health care systems of some of the most advanced and developed cities on earth, in addition to the eventual millions of mortalities and many millions more morbidities.¹⁻⁴ Of the many lessons learnt and re-learned⁴⁻⁷, the importance of early diagnosis and intervention is repeatedly emphasized. This is true not just for Covid19 infections⁸, but also for the commonest and most important central nervous system infections such as bacterial meningitis⁹ and herpes simplex encephalitis.¹⁰ Automated molecular diagnostic tests may provide rapid microbiologic diagnosis for a broad array of infectious agents¹¹⁻¹², however, imaging modalities remain indispensable as a first line tool not only in the diagnosis of central nervous system infections, but also the detection of complications, and in providing important cues in anatomical, pathophysiological and clinical correlations. The current volume edited by Lim T and Mukherji SK contributed to a significant and timely update on this important yet often under-taught topic of central nervous system infections.¹³

OVERVIEW

The volume begins appropriately with the changing epidemiology of central nervous system infections to emphasize not just the importance of the topic but also the challenges to the practising clinicians and radiologists brought on by the emergence and re-emergence of various pathogens, previously thought to be, and often taught at medical schools to be, exotic. The anxiety aroused by these challenges is reassuringly tempered by two excellent subsequent papers that provide logical, deductive and structured frameworks to approach the neuroimaging findings of common bacterial and viral infections. These two chapters are well complemented by the final paper on radiological, pathological and clinical correlations, which serves not only to enhance understanding and information retention pedagogically, but also to stimulate interests in research by highlighting existing gaps in knowledge.

Book-ended by these papers are individual papers on specific infections according to the pathogenic classification. The specific chapters begin with what is *in vogue* – 2 papers on the neuroimaging findings related to Covid-19 infections, both acute and subacute/chronic. These are followed by chapters on uncommon bacterial/fungal, mycobacterial, parasitic, HIV infections, and infections on specific regions such as the spinal cord and head and neck region, as well as a chapter on congenital and paediatric infections. The more esoteric are not left out, including regional but interesting pathogens, such as schistosomiasis related spinal cord infection.

STRENGTHS

The topics covered are global and so is the expertise of the contributors, among whom are included not just radiologists, but also clinicians and pathologist. Yet the writing style is remarkably consistent despite the authorial diversity. The content of each chapter begins with general principles, follows by details of each infection, with succinct clinicopathological introduction to each pathogen. The chapters are not only cutting edge in content, but amply exemplified with instructive and clear images, fortified with memorable tables of common findings, differential diagnoses and summaries of imaging features. The scope is extensive and includes not just diagnostic of specific infection but also the differential

diagnoses and complications. Yet, the chapters are arranged logically with particular care to sub-division according to clinically useful headings. Each chapter starts with a highlight of learning points in a *Key Points* table, and ends with final take-home clinical pearls in a *Clinic Care Points* table.

WEAKNESS

The approach of the volume is topical and classified according to the causative pathogens; in clinical practice, however, the clinicians and radiologists are confronted by patients with specific clinical and neuroimaging findings seeking a pathogenic diagnosis. A chapter on the clinical and radiological approach would serve the practising clinicians well in identifying the possible causative agents. This is all the more useful given the wealth of information contained, both written and visual on the one hand, and the lack of an index on the other.

CONCLUSION

The collection of images alone is well worth the value of the volume; and the content more than the hours of compulsory continuing medical education requirement one would spend on it, for they stir and arouse the intellectual curiosity and interests that attract us to the profession. And as Isaac Newton remarked in a letter to Robert Hooke on 5th February 1675 that if he had “seen further, it is by standing on the shoulders of giants”¹⁴ then almost to the month 348 years later, we could see further, and see with excitement, by doing the same through this volume.

Conflict of interest: The author received a copy of the journal for the purpose of this review.

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