

CNS Infections

Juan Carlos García-Monco
Editor

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A Clinical Approach

 Springer

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*To my wife Beatriz, and to my children
Carlos, Pablo, and Sofia, for they all have
been taken away many hours during the
preparation of this book.*

*To Jorge Benach, once my mentor then my
friend, for his continuous help and support.*

*To our patients, for they are a continuous
source of inspiration.*

Preface

This book was first envisioned in June 2012, during the annual meeting of the European Neurological Society held in Prague. Joanna Bolesworth, from Springer, kindly approached me to delve into my interest in editing a book on central nervous system (CNS) infections.

I soon became excited about the idea since neurologic infection has been the topic I have devoted the most time over the last two decades. Furthermore, it is a stimulating field with continuous advances in which specialists from Internal Medicine and Neurology often converge, a feature that makes the readership rather heterogeneous.

It was obvious, though, that we should provide an attractive material in a field where several good textbooks already exist. With this in mind, I prepared a table of contents that was primarily oriented to the practicing, busy physician who cares for patients with infections of the CNS, and who needs easily applicable management directives. Today, there are unparalleled opportunities to make substantial progress in managing infections. The genomes of all the important pathogens as well as the genome of man are known. Monitoring global gene expression or performing genome-wide mutagenesis is now routine in the study of many pathogens, and there is the real possibility that personalized medicine will be a reality. New bioinformatic tools, molecular structures, and imaging technologies are providing an unprecedented view of both pathogens and hosts in the infection process.

Although the wealth of information and new powerful technologies have transformed the management of infections, they have also presented the field with new challenges. To take full advantage of these changes, clinicians and laboratories must implement multidisciplinary approaches, which often require the incorporation of new technologies beyond the capabilities of an individual clinician. We have been mindful of this, and have asked each author to consider the latest advances that have an impact in the management of patients in each of their respective fields.

From the very beginning, a group of experts in the different areas were put together, all of them enthusiastically agreeing to participate. It is their collaboration what provides the added value to this book. In what seems almost a record of time (several months) we have been able to finish the work, which would have been impossible without the invaluable help of Michael Griffin, the project's development editor.

The book is divided into 15 chapters encompassing general aspects of CNS infection, specific etiologic agents, and particular conditions such as immunosuppression states and anatomic locations such as spinal cord infections.

The first chapter is devoted to the analysis and interpretation of the different CSF values, a crucial aspect in dealing with patients with suspected CNS infections. It is followed by an updated chapter on community-acquired bacterial meningitis, and by a difficult-to-find detailed chapter on meningitis and ventriculitis occurring after different surgical procedures and shunting devices for CSF drain.

Viral infections represent the commonest CNS infections, and are segregated into three chapters. The first of them covers the viral meningitis, a common, usually benign condition. The second chapter deals with acute viral encephalitis, focusing on the most common and severe sporadic encephalitis, herpes encephalitis; it also discusses other viruses as well as postinfectious conditions. The third chapter includes tropical viral infections, quite frequent in certain parts of the globe, and that require special consideration in a globalized world of continuous travelling.

Fungal infections involve not only immunosuppressed patients but also healthy individuals, and are detailed in a separate chapter.

Tuberculosis is a public health problem around the world, often posing a diagnostic and therapeutic challenge, particularly in the context of nervous system disease, and is separately discussed, with mention of other mycobacterial pathogens.

Likewise, parasitic CNS infections represent a clinical dilemma, mimicking other noninfectious disorders and requiring expertise to establish proper diagnosis and therapy.

Spinal cord infection is covered on a separate chapter. It involves different pathogens, but the particular anatomic location and clinical manifestations led us to reserve a specific section for this topic.

Human CNS trepanomatoses and borrelioses span the old neurosyphilis with the more recent Lyme disease and relapsing fever, and are thoroughly covered in two separate chapters.

Often neglected, drugs can result in meningitis, a condition that represents a challenge to the clinician suspecting a CNS infection, particularly if the drug involved is an antibiotic. A separate section covers this area.

Finally, the last two chapters are devoted to patients with immune suppression, be it by different medical conditions (i. e., hematological neoplasias) or by HIV infection, a condition whose prognosis and management has drastically changed over the years since the early 1980s. The vast variety of conditions that revolve around immunosuppressed patients clearly justify these two sections.

I believe that we have achieved our goals, and that we have come up with a practical material that covers most of the infectious conditions involving the CNS. Some of them are difficult to find in other sources, and I hope that this book will help clinicians manage their patients, which in the end is our real goal. If so, all the efforts will have been completely worthy.

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