BOOK REVIEW

Interferon therapy of multiple sclerosis.

There is now considerable evidence that cytokines such as tumor necrosis factor-α and interleukin-1 contribute to the pathogenesis of inflammatory autoimmune diseases including multiple sclerosis. Since the production of these proinflammatory cytokines might be regulated by anti-inflammatory cytokines, the administration of a single cytokine is currently considered to represent a promising approach to therapeutic intervention in the immune network in such diseases. In recent years there has been increasing evidence that the administration of interferon-β (IFN-β) displays some efficacy in the treatment of patients with multiple sclerosis by diminishing the number and intensity of relapses in the relapsing-remitting form of the disease. However, the mechanisms of action of IFN-β remain unclear. Although in the past few years a tremendous number of papers, reviews and book chapters have dealt with interferons in multiple sclerosis, Anthony T. Reder has edited the first book entirely devoted to this hot subject.

The book includes various aspects of IFN biology, either in general, in the central nervous system or in multiple sclerosis. Since both fundamental and clinical aspects are covered, the book should be recommended to laboratory researchers and physicians. Furthermore, the authors not only present reviews of the recent cutting-edge publications on the subject but also expose their personal point of view making the reading easy and attractive.

Although the chapters dealing with molecular biology and functions of interferons tend to be devoted to IFN-α and IFN-β, IFN-γ and the recently described type I interferon, IFN-τ, are not forgotten. The first chapters deal with the different intracellular signals induced by the binding of either IFN-α or IFN-β to their common receptor. Although IFN-τ is not mentioned in this part of the book, the sharing of an identical receptor together with the induction of different signaling pathways is well explained and pinpoints the premise that IFN-τ may display therapeutic activities similar to those of IFN-β but in the absence of toxicity, at least in experimental allergic encephalomyelitis, the animal model for multiple sclerosis.

I particularly appreciated the clinical part which can be well understood by a non-clinician. Improvement of patients’ condition as well as adverse effects of treatment with IFN-α or IFN-β are clearly exposed. Furthermore, the overview entitled “What is Multiple Sclerosis” in the chapter by R.L. Knobler is a very useful and interesting part for individuals like me, who are not familiar with the clinical manifestations of multiple sclerosis. In addition, new techniques are described, such as magnetic resonance spectroscopy, which can provide in vivo biochemical information opening new gates to the pathological assessment of multiple sclerosis and to the follow-up of clinical trials of IFN-β and other immunomodulating agents.

This book will be a milestone in the search for specific immunotherapy, not only for multiple sclerosis, but also for other inflammatory diseases. It should be a useful tool for those involved in these fields, either laboratory researchers, physicians or, more generally, people interested in multiple sclerosis and the use of cytokines as therapeutic tools.

Danielle Burger, Ph. D., Clinical Immunology Unit, University Hospital of Geneva, Switzerland