

*Book review*

**The neuroendocrine immune network in ageing, Editors: Rainer H. Straub and Eugenio Mocchegiani Elsevier, 2004, 441 pp, hard back, price USD/EUR 180; ISBN 0444516174.**

Continuing the excellent tradition of the book series, *Neuroimmune Biology*, edited by I. Berczi and A. Szentivanyi, the present volume 4, *The Neuroendocrine Immune Network in Ageing*, is a very useful volume full of background scientific information and ideas for future developments and applications in anti-ageing research and intervention.

Comprised of 27 chapters written by 69 authors from 10 countries (although almost half of the contributors are from Italy alone), this book covers the areas of the basic biology of the ageing immune system, the endocrine system, and the nervous system, and of the links between the so-called one global system (the neuroendocrine system) and the other global system (the immune system). After a brief and general introduction by R. Straub on the evolutionary aspects of neuroendocrine immune network and ageing, the second section deals with the ageing of the immune system. Various aspects of the immunosenescence are reviewed by R. Solana and G. Pawelec in their article on immunosenescence. This is followed by the review of specific aspects of the ageing of the immune system, for example neutrophil ageing and immunosenescence (S.K. Butcher et al.); MHC-cytotoxicity (M. Provinciali et al.), MHC polymorphism (G. Candore et al.), apoptosis in the immune system (A Larbi and T. Fulop), and zinc-binding proteins as markers of immunosenescence (E. Mocchegiani et al.).

The third section on the ageing of the endocrine system has, among others, articles by M. Hofman and D. Swaab on the neuroplasticity in the human hypothalamus; by A. Bartke et al. on the role of growth hormone signaling in the control of ageing; by E. Plas et al. on hormonal changes in ageing

men; and by R. Riemersma et al. on melatonin rhythms and melatonin supplementation in old age. Similarly, the fourth section on the ageing of the nervous system includes five articles on the descriptive and the interventional aspects of ageing, such as the one by C. Bertoni-Freddari et al. on the modulatory effects of nutrition on brain ageing. The remaining three sections on the links between neuroendocrine and the immune system, on the ageing process and chronic inflammatory diseases, and on possible new anti-ageing strategies related to neuroendocrine-immune systems also contain well searched and well written articles by various authors. The final chapter by the book series editors (I. Berczi and A. Szentivanyi), tries to recapitulate the central theme and ideas presented in the previous 26 chapters, but does not add really anything new to what has already been well-said by other authors in their respective chapters.

*The Neuroendocrine Immune Network in Ageing*, is a welcome addition to biogerontological literature, and deals with a very important issue of interactions among different organizational levels and their age-related failure. It would have been very useful if the issue of the target organs, such as the muscles and the skin, which often bear the brunt of the dysfunctioning of the neuroendocrine immune network, was also discussed in this book. But, the wealth of information provided with respect to the ageing brain, the immune system and the hormonal system is definitely highly useful to venture into other areas of biogerontology.

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