BOOK REVIEW

Alzheimer’s Disease – Modernizing Concept, Biological Diagnosis, and Therapy

The present vol. 28 of the series Advances in Biological Psychiatry, edited by H. Hampel, Frankfurt/M, Germany, and M. C. Carrillo, Chicago, IL, two internationally renowned experts in Alzheimer research, and written by an international panel of researchers, summarizes and discusses novel conceptual models of the disease along with advances in the development of surrogate markers that will not only improve the accuracy of diagnosis but also prospects of developing disease-modifying interventions for this deleterious disorder. The book contains 10 chapters. After an introduction on the global impact of Alzheimer’s disease (AD) including new diagnostic criteria, biomarkers, and new disease concepts (M.C. Carrillo et al.), new data on the genetics of AD based on recent genome-wide association studies are presented (M.C. Schuh et al., Boston, MA, USA), whilst K. Herrup (Piscataway, NJ, USA) discusses current conceptual views of AD, current pathogenic theories, and basic molecular mechanisms. The following overview of the neuropathological basis of AD and its diagnosis considers also the neuropathology of mild cognitive impairment, new directions in clinical criteria, the recently revised neuropathologic diagnostic criteria, and the relationship between biomarkers and AD pathology (J.A. Schneider et al., Seattle & Boston, USA). Recent advances in fluid biomarkers as diagnostic tools for AD, including new biomarker candidates and validation/standardization issues, are presented (H. Zetterberg et al., Mölndal, Sweden, & Frankfurt/M., Germany). An extensive overview of modern (structural and functional) MRI and PET-based imaging markers for the diagnosis of AD is presented by an international panel of experts (S. Teipel et al., Germany, UK, USA), whilst G.M. McKhann et al. (Baltimore & Boston, USA) provide insight into the changing diagnostic concepts, clinical and research criteria of AD, and compare the recent NIA-AA criteria with other diagnostic frameworks. A critical update of the pharmacological treatment of AD (L.S. Schneider, Los Angeles, CA, USA) presents current pharmacological treatment recommendations and prevention trials as well as current treatment development, emphasizing the challenges of clinical drug development, whilst K. Boch and co-workers (Bonn & Frankfurt, Germany) discuss regulatory requirements on clinical trials in AD, the regulatory perspectives on the use of biomarkers, and consequences for regulators. Finally, Z.S. Khachaturian (Potomac, MD, USA) provides insight into past, present, and future perspectives on AD and its impact on healthcare challenges. All chapters are concise and well written, with many informative subheadings, some tables, and only very few pictures; they are uniformly arranged with initial abstract, many with conclusions, and all with reference lists of variable length usually ending 2011. A subject index allows rapid orientation within this complicated subject. The present book provides a comprehensive update on current trends and future directions in classification, clinical, and biomarker diagnosis of AD as well as future directions in therapy development, with special focus on advances and requirements in clinical drug design.

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