Book review

A new book about modelling dementia

Animal Models of Dementia. Edited by Peter Paul De Deyn & Debby Van Dam. Published by Humana Press, Springer, New York, 2011. 732 pp, ISBN: 978-1-60761-897-3

Dementia is a devastating condition that poses a major socio-economic burden to society. There is still no adequate treatment for dementia and the number of demented patients is rising as life expectancy is continuously increasing. There is an urgent need to investigate mechanisms underlying dementia to understand what goes wrong and what can be done for treatment. Such mechanistic studies cannot be done in patients as sophisticated experimental manipulations are not permissible. Therefore, studies with animal models are of the utmost importance to tackle dementia. Consequently, hundreds of animal model studies have been carried out. Highlights of these studies are summarized in the new book *Animal Models of Dementia* edited by Peter De Dyn & Debby Van Dam. In the book leading experts have written comprehensive overviews of relevant animal work and they have included useful reference lists to direct further reading. The book assumes some background knowledge and therefore it is a great add-on to more basic textbooks on mechanisms of dementia. The book not only nicely summarizes ongoing efforts to model dementia but also describes how to investigate underlying mechanisms at various levels of complexity. As Alzheimer's disease is the predominant form of dementia, the book is mostly (but not only!) dedicated to models of Alzheimer's disease. Importantly, leading mouse models are discussed, which is very useful for newcomers to the field, as there are a lot of different models. Furthermore, spontaneous mutants, lesion models, acute models (based on the injection of amyloid peptides), and models of *Drosophila* and *C. elegans* are also introduced. Whilst the book provides a very impressive description of various models of Alzheimer's disease, it does not offer an opinion about advantages and disadvantages of the different models. Unfortunately, this is a missed opportunity to help newcomers in the field. Additionally, the book does not explain how to design a great model of Alzheimer's disease. For example, that for transgene expression developmentally active promoters should be avoided. Or, that mimicry of identified expression changes in Alzheimer's

disease can provide insights about the function of such changes. Nonetheless, the book provides an excellent compendium of models of Alzheimer's disease and it has also information about modelling non-Alzheimer's dementia. Importantly, the book not only describes various animal models of dementia, it makes it also clear that these models need to be investigated at various levels, which include behavioural studies, imaging experiments, neuropathological investigations, pharmacology and neurochemistry. Additionally, the book provides information about ethics on animal experimentation and information on intellectual property, issues that can be rarely found in textbooks.

Competing Interests

There are no competing interests to declare.

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