Book Review: *Neurotrauma: A Comprehensive Textbook on Traumatic Brain Injury and Spinal Cord Injury*

By: Kevin K.W. Wang, editor
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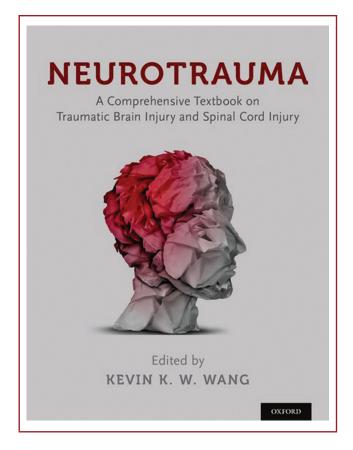Price: $165.00
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Neurotrauma: A Comprehensive Textbook on Traumatic Brain Injury and Spinal Cord Injury edited by Dr Kevin K.W. Wang is designed to bring together the latest forms of clinical practice and research in traumatic brain injury (TBI) and spinal cord injury in a comprehensive but easy to follow fashion. The forward sets the scene by highlighting 2 recent changes in our appreciation of TBI. First, our increasing awareness of the effects of sports concussion on neurodegenerative disease, and secondly the increased prevalence of wounded service members in whom there is a high incidence of post-traumatic stress disorder and the long-term effects of TBI. It is on this basis that the editor makes a case for a textbook that brings together many of the new developments in TBI and spinal cord injury research.

SUMMARY OF ARGUMENT

The editor clearly lays out his vision for the role that such a research focused textbook should serve. One of the goals is that ideas from one field can inform those in another by highlighting common themes in management and notable contrasts that stimulate potentially new approaches. Examples include contrasting: TBI and spinal cord injury, adults and pediatrics, early and late effects, mild and severe injuries, and injuries occurring in a variety of settings or mechanisms such blast related, military, and sports concussion. Another key goal is to target commendably broad audience, including: clinicians, research professionals, non-clinical academics, biomedical industry research and development scientists, as well as patients and care givers. In this regard the individual topics are diverse and each chapter is written clearly and concisely. This also relates to another key theme, namely that anyone can find at least one chapter that they are familiar with while also at the same time be exposed to less familiar ideas too.

ABOUT THE AUTHOR

This book is edited by Dr Kevin K.W. Wang who is currently Executive Director, Center for Neuroproteomics & Biomarkers Research and Chief – Translational Research, Associate Professor of Psychiatry, Neuroscience & Physiological Science, at the University of Florida, Gainesville. His background is in Pharmaceutical Sciences in which he obtained a PhD. Dr Wang has previously contributed to the discovery and development of protein biomarkers (UCH-L1 and GFAP-BDP) of acute TBI that are the subject of the ALERT-TBI trial. His main research interests are in basic and translational research. He is also Chair Professor of the Taipei Medical University. Previously he has co-edited four books on proteases, neuroproteomics and biomarkers for central nervous system disorders.

DETAILS/SUMMARY OF CONTENT

The textbook comprises 477 pages over 37 chapters. The main chapter groups are: severe traumatic brain injury, mild traumatic brain injury and concussion, neuroimaging and biomarker assessments in traumatic brain injury, translational animal studies of traumatic brain injury, current and future treatments of traumatic brain injury, spinal cord injury, and common themes between traumatic brain injury and spinal cord injury. The themes of the individual chapters are diverse. These include more traditional themes such pediatric severe TBI and management, research focused areas such as microRNA biomarkers and inflammation, and novel treatments such as bioengineering, regenerative

medicine, and stem cells studies. The link between TBI and spinal cord injury focuses on the role of hypothermia and autoimmune response. Each chapter is clearly written, concise, and thoroughly referenced. The editor is also to be commended for assembling a global author team, which again serves to broaden the ideas conveyed. However, figures are at a premium throughout, and it is predominantly a text volume.

STRENGTH

The breadth of topics encompassing predominantly research-focused areas is this textbook's main strength. It is easy to imagine that there will be at least a few topics of interest to everyone, as well as many more that one would not necessarily be exposed to in daily practice. By having these novel topics immediately available does indeed make it more likely that one will diversify their reading habits, and potentially be inspired with new ideas, much as the authors intended.

However, there are some limitations to this approach. For example, by focusing on breadth and accessibility to a wide audience, it means that each chapter is somewhat brief, although this an inevitable consequence of keeping within a page limit. The numerous research themes and breadth of the textbook have also meant that it necessarily sacrifices some areas of established practice, such as the neurosurgical management of TBI and multi-modality monitoring, which form the foundations of current clinical management. Finally, with such a focus on new developments there is always the risk that the textbook may not "age" as well as those based on more consolidated areas of practice, but this provides a great opportunity for further editions!

CONCLUSION

In conclusion this is an excellent textbook for those with an academic interest in TBI, particularly the research and medical aspects. It provides a unique collection of topics providing a wide overview of research theme across the whole spectrum of TBI and spinal cord injury. The editor's expertise in biomarkers and interest in new treatments are clearly conveyed. In this manner it complements other comprehensive textbooks on TBI. If one wishes for a comprehensive textbook on the clinical management of TBI, or as a resource for neurosurgical training and examination purposes, there are numerous excellent choices available. However, for someone who wishes to understand the broad playing field of research within TBI and spinal cord injury, this book serves as a unique and accessible introduction. We strongly recommend it.

Disclosures

The authors have no personal, financial, or institutional interest in any of the drugs, materials, or devices described in this article.

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