

BOOK REVIEWS

Intracranial and intralabyrinthine Fluids: Basic Aspects and Clinical Applications

Edited by Arne Ernst, Robert Marchbanks and Madjid Samii, Berlin, Springer 1996, 300pp illustrated. ISBN 3-540-60979-2. Please note the current edition is out of print, but a second edition will definitely be printed.

This concise book is the product of an international meeting held in Seeheim, Germany, in September 1995. I singled it out for review from the plethora of such monographs because it summarizes a great deal of new information that is not readily available elsewhere and is relevant to neurology, specifically to the field of neuro-otology. The 41 participants, largely European investigators, represent a spectrum of otologists, neurologists, neurosurgeons, and basic scientists. They have focused on research and clinical aspects of the intracranial and intralabyrinthine fluids and their physiology, pressures, chemistry, and close interrelationships. New technologies are discussed that promise to be useful in monitoring the intracranial pressure noninvasively via tympanic membrane displacement and otoacoustic emissions. New conditions (at least to me) are described: the large vestibular aqueduct syndrome and the perilymphatic fistula syndrome as a manifestation of pseudotumor cerebri. The mechanisms of labyrinthine vertigo, tinnitus, and intracochlear pressure changes are elucidated by several authors. I enthusiastically recommend this volume to those interested in neuro-otology, to keep abreast of recent advances in this field. This book is an eye-opener!

Reviewed by Robert A Fishman MD, San Francisco, CA, USA in Annals of Neurology, Vol. 42, No 2, Page 285, February 1997.

This monograph is a compilation of papers that were presented at an international meeting of the same title, held in Seeheim, Germany, in September 1995. This information is aimed at neuroscientists, neurosurgeons, otolaryngologists, and audiologists. The papers discuss a wide range of various interactions between the intracranial and intralabyrinthine fluids and the effects these interactions have on neuronal and cochleovestibular function. This book fills a previous void in published information on this topic. With the narrow focus of our respective specialties, it is easy to forget that the organ systems that we treat clinically or examine through research have complex interactions with the organism that can change function and induce pathologic conditions. This monograph is filled with current research in this area and some very good clinical studies documenting the interaction of these fluids. Among the important research information presented in this book, the reviews of the fluid pressure regulation between the two systems and the composition and longitudinal flow of labyrinthine fluids (there isn't any) are particularly timely and interesting. There is extensive information on the clinical evaluation and treatment of intracranial and intralabyrinthine fluid disorders. Of the clinical papers, the ones discussing the use of otoacoustic emissions and a tympanic displacement analyzer for monitoring change in intracranial pressure may represent noninvasive studies that will obtain widespread clinical use in the near future. Excellent reviews on the X linked stapes gusher syndrome and two large studies of the enlarged vestibular aqueduct syndrome are the other outstanding papers in the clinical sections. This book includes information beyond that which I had anticipated would be available on this topic. It is a valuable resource for those who are interested in both the clinical and research aspects of this topic. I recommend that your library purchase a copy, or, if this is not possible, obtain it through interlibrary loan.

Reviewed by Charles A. Syms III, Vice Chairman and Director of Otolaryngology/Neurotology, Resident Education and Research, Department of Otolaryngology, Wilford Hall Medical Center, San Antonio, Texas, USA in The American Journal of Otology, 18:405, 1997.

FOREWORD

Intracranial and intralabyrinthine Fluids: Basic Aspects and Clinical Applications

*Edited by Arne Ernst, Robert Marchbanks and Madjid Samii, Berlin, Springer 1996, 300pp illustrated. ISBN 3-540-60979-2. Please note the current edition is out of print, but a second edition will **definitely** be printed.*

There is no question that the topic of this meeting in Seeheim, Germany, on intracranial and intralabyrinthine fluids is pertinent. This was the first international meeting at which these two closely-related topics were addressed together. Combining the clinical and research aspects of fluid and pressure regulation in the intracranial and the intralabyrinthine compartments as well as discussions on the clinical implications of abnormal fluid pressure was an excellent idea. The presentations and discussions of both the clinicians and basic scientists who participated proved that the concept of having such a combined focused gathering was both original and relevant.

The two topics of the meeting in Seeheim have much in common. Maintaining both the intracranial pressure (ICP) and the intralabyrinthine pressure within normal limits is important for the normal functions of both the central nervous system and the ear.

The intracranial space and the intralabyrinthine space are closed compartments that communicate with each other in an intricate manner. Deviations from normal intracranial pressure result in specific symptoms and signs. Medical problems related to elevated intracranial pressure vary from subtle to severe. Accumulated knowledge indicates that there are adverse effects from even relatively small elevations in ICP. Elevations in ICP may cause injuries to the brain and the ear. Abnormal pressure in the ear may cause abnormal function and injury. Maintaining the intracranial pressure within normal limits depends on a normally functioning pressure regulation.

Communication between the intracranial space and the intralabyrinthine space and their inter-relationships have been under appreciated. These inter-relationships allow the possibility to measure intracranial pressure noninvasively by measuring the intralabyrinthine pressure.

We have come a long way in understanding some of the disease processes that are related to elevated ICP and elevated intralabyrinthine pressure, but many unanswered questions remain. In addition, we still have much to learn about the clinical signs of abnormal pressure in these compartments. We do not understand clearly why the effects of elevated ICP on neural function vary so much, and the relationship between elevation in ICP and neural injury is poorly understood. Although pressure differences within the endolymphatic space and the perilymphatic are believed to cause specific symptoms and signs, we do not fully understand the relationships between elevated intralabyrinthine pressure and the symptoms from the auditory-vestibular system.

This meeting has been valuable in disseminating knowledge about research results and clinical experience in this regard. The discussions were very valuable in clarifying some of the unanswered questions. The opportunity for otologists and neurosurgeons to exchange ideas and discuss their experiences, research results, and opinions was perhaps the greatest value of this meeting. Many of the participants departed with new knowledge and new ideas that will contribute to their future work.

The organizers of this meeting are to be congratulated for the concept of creating this forum as well as for the perfect organization of the meeting. This meeting will definitely have an impact on future research and the development of clinical treatments and diagnostic methods related to intracranial and intralabyrinthine pressure. The success of this meeting has also paved the way for similar meetings.

Aage R Møller, PhD

*Peter J. Jannetta, M.D.
Department of Neurological Surgery
University of Pittsburgh
School of Medicine*