Book Reviews

Lectures on Anesthetics and on Asphyxia

Claude Bernard (translated by B. R. Fink). Wood Library-Museum of Anesthesiology, Park Ridge, Illinois, 1989. pp 404. \$35.00 U.S. from Wood Library-Museum. ISBN 0-9614932-1-6

This series of lectures by the eminent 19th century physiologist, Claude Bernard, was first collected and published in 1895. The present translation into English has been supported by the American Society of Anesthesiologists affiliated Wood Library-Museum and the original publishers, JB Ballière et fils (Paris). Most of these nineteen lectures were given in 1869, when Bernard held the Chair of Medicine at the Collège de France; a position he filled in 1855 on the death of his mentor François Magendie. His reputation was established by that time. The discovery that curare produced paralysis by an action at the neuromuscular junction, his most important contribution to anaesthesia, had been published in 1856.

The introductory lecture reveals the experimental approach he used in solving all medical problems, illustrating this with accounts of his investigations into blood and the milieu intérieur. His evidence that the alkalinity of the blood is constant in health remains substantially undisputed. The text is then divided between a discussion of the pharmacological, neurological and molecular theories for the mechanisms of anaesthesia, and carbon monoxide asphyxiation. Throughout, anaesthesia is regarded as the effects of chloroform and ether, which were thought to act by reversibly coagulating cell protein, in contradistinction to the narcosis produced by opium and its alkaloids. Some of the animal experiments (such as subjecting rabbits to fumes from log stoves) which proved that carbon monoxide fixed to the blood as carboxyhaemoglobin, must have roused the wrath of anti-vivisectionists! The last lecture was written some years after the others and published posthumously in 1988, but summarizes much of the earlier work. Bernard concluded that the property of "anesthetizability" is inherent in all living things.

This is a fascinating book, to be read by the serious reader of anaesthetic history or those who are simply curious about the developments in physiology which paralleled the introduction of anaesthesia. Some of the lessons, particularly those on pain relief, could well be applied today.

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Anesthesia and the Brain: Clinical, Functional, Metabolic, and Vascular Correlates

John D. Michenfelder. Churchill Livingstone Inc. New York, 1988. pp 215. \$50.95 ISBN 0-443-08628-1

"Anesthesia and the Brain" is an easily read monograph which reviews the functional, metabolic and vascular effects of the drugs and conditions commonly encountered in clinical anaesthesia. Dr. Michenfelder summarizes what he has learned from an extraordinarily productive career probing the secrets of cerebral function which relate to the practice of neuroanaesthesia and intensive care. Although the presentation is a very personal one (108 of the 792 papers quoted originated at the Mayo Clinic), it is well balanced. As usual, Dr. Michenfelder has not allowed laboratory work to dictate clinical practice and he has skillfully shown how the information from the laboratory can be applied. Where controversy exists, such as in the putative protective effects of isoflurane in ischaemic brain, the issues are clearly stated, thoroughly discussed, and the author's bias directly stated.

After discussing the basic concepts concerning cerebral physiology in the awake, hypothermic, and anaesthetized brain, Dr. Michenfelder devotes three chapters to the cerebral effects of inhaled anaesthetics and three chapters to intravenous drugs (barbiturates, narcotics, and other induction agents). Separate chapters are also devoted to local anaesthetics and muscle relaxants. In a section entitled "Clinical Conundrums," Dr. Michenfelder provides a brief but well-focused summary of his thoughts concerning monitoring of cerebral function, brain protection, and his choice of anaesthetics for the brain.

In the final chapter, Dr. Michenfelder provides us with a very entertaining account of the efforts which were necessary to discover the cause of seizures in neurosurgical patients at his hospital. Without revealing the answer, I encourage you to read this section attentively, for even with the best of intentions, anaesthesia is a mystery to many of our surgical colleagues.

This is not a textbook of neuroanaesthesia, and issues important to neuroanaesthetic practice such as intracranial hypertension are mentioned as part of the discussion of the cerebral effects of the anaesthetic drugs.

In summary, "Anesthesia and the Brain" is a well-written, interesting monograph which should be read by all residents and all staff who deal even briefly with neurosurgical anaesthesia.

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