Examine & use this new book for 20 days before you decide to buy

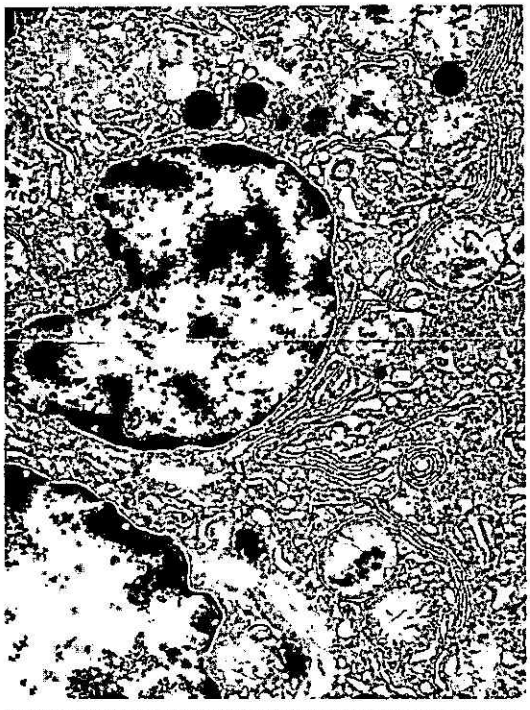
The first book to characterize shock states at the molecular and cellular level

PATHOPHYSIOLOGY OF SHOCK, ANOXIA, AND ISCHEMIA

Edited by **R. ADAMS COWLEY, MD**
Director, Maryland Institute for
Emergency Medical Services System (MIEMSS)

BENJAMIN F. TRUMP, MD
Director, Department of
Pathology, University of Maryland
School of Medicine

Electron micrograph of liver obtained at autopsy from a 62-year-old male who suffered irreversible brain injury following self-inflicted gunshot wounds to the head. This patient had several shock episodes. Note the numerous residual bodies.



This electron micrograph demonstrates severe subcellular injury with flocculent densities, the hallmark of cellular death. Following a motor vehicle accident this patient sustained a severe open head injury requiring craniectomy for decompression. Despite maximal operative methods and therapeutic coma, the cerebral intraventricular pressure could not be controlled. Refractory hypotension ensued and the patient suffered a cardiac arrest 8 hr later.

The first comprehensive approach to the pathophysiology and treatment of shock, anoxia, and ischemia

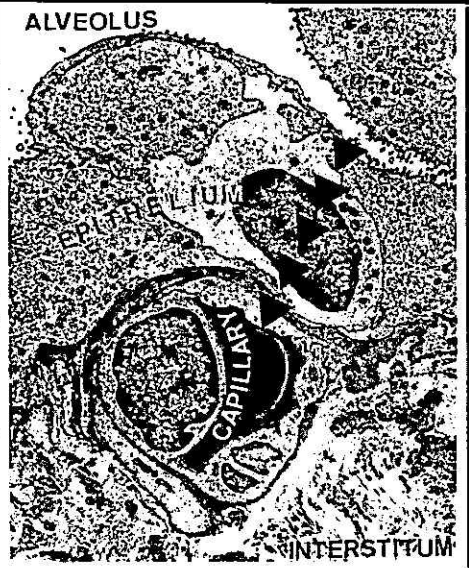
An interdisciplinary group of pathologists, biochemists, and physiologists collaborate to show that it is now possible to characterize anoxic and other ischemic states (including shock, myocardial infarction, stroke, and CNS injury) at the molecular level. The book brings you much new information on both mechanisms of injury and therapeutic interventions. Many of the remarkable findings reported here can be traced to the Maryland group's access to "instant autopsy," which has brought quantum leaps in understanding the pathophysiology of shock. Because this group has had the unique advantage of being able to study the trauma victim at the very moment of death, they have been able to apply advanced tools, such as electron microscopy, to the study of freshly procured tissues and fluids.

You'll get in-depth analysis of ultrastructural, biochemical, and physiologic events which occur as a response to injury. New findings relating to structure and function are correlated with treatment at the cell level...and in all major organ systems.

Here is just a sampling of the chapters of special interest to pathologists:

- Trump, Berezsky, and Cowley's overview of cell and organelle reactions to injury in various disease processes, demonstrating that it is now possible to characterize both reversible and irreversible cell damage at the ultrastructural level
- Mela's important review on shock state changes in the mitochondria, which more than likely represent the primary site of damage
- Carafoli's excellent analysis of the regulation of cell calcium, a major messenger that mediates cell damage
- Chapters by Reimer and Jennings on altered cell volume regulation, correlated with changes in cyclic nucleotides

- Documentation of progress in the study of microcirculation through McCusky's intraviral microscopy and other methods
- Al Lefer's important review of major vascular mediators, including the renin angiotensin system, prostacyclines, thrombozyme systems, and lysosomal hydrolases
- Changes in the liver in shock states reported by Cowley and Trump
- Changes in the lung reported by Sandritter's group in Freiburg
- Detailed chapter on altered pathophysiology in adult RDS
- Richard Lindenberg's comprehensive review of the pathology and Tyson and Jane's review of the pathophysiology of head injury
- Review of spinal cord injury
- A major review of subcellular pathology by Mergner and Schaper in the chapter on myocardial infarction
- Garcia considering the cell pathophysiology of stroke
- Roberts reviewing his extensive studies of coronary artery narrowing in fatal acute myocardial ischemia



Ultrastructure of human alveolar wall in the late stage of shock. The alveolar wall is diffusely thickened. Capillaries lie in a fibrosed and thickened interstitial space and have been forced away from the alveolar surface by the cuboidal epithelium. Because of this, gaseous exchange is impaired and compliance is reduced to a level which threatens the life of the patient. ×6,500.

Contents

Printed in U.S.A. PCOWLEY 912410 8/81