Essentials of Neuroanesthesia

Edited by

Hemanshu Prabhakar

ESSENTIALS OF NEUROANESTHESIA

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Edited by

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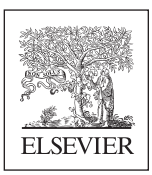

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Dedicated to my parents—Avinash and Kanti Prabhakar
The best gifts they stored for me—Kavita and Hemant, who in turn gifted me Sunil and Deepali
To those who mean the world to me—Pallavi, Anavi, and Amyra
To Aishwarya, Avi, and Anav

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Contents

III
NEUROPHARMACOLOGY

6. Neuropharmacology

P. GANJOO AND I. KAPOOR

7. Anesthetic Agents: Neurotoxics or Neuroprotectives?

J. FIORDA-DIAZ, N. STOICEA AND S.D. BERGESE

IV
NEUROMONITORING

8. Neuromonitoring

V.J. RAMESH AND M. RADHAKRISHNAN

9. Multimodal Monitoring

A. DEFRESNE AND V. BONHOMME

V
POSITIONS IN NEUROSURGERY

10. Positioning in Neurosurgery

G. SINGH

VI
PREANESTHETIC EVALUATION

11. Preanesthetic Evaluation of Neurosurgical Patients

R. MARIAPPAN

VII
NEUROSURGERY

12. Supratentorial Lesions

H. BHAGAT AND S. MAHAJAN

13. Emergence From Anesthesia

M. ECHEVERRÍA, J. FIORDA-DIAZ, N. STOICEA AND S.D. BERGESE

14. Anesthesia for Posterior Fossa Surgery

K. SANDHU AND N. GUPTA

15. Transesophageal Echocardiography

A. LELE AND V. KRISHNAMOORTHY

16. Anesthesia for Epilepsy Surgery

N. GUPTA

17. Refractory Status Epilepticus

M. PANEBIANCO AND A. MARSON

18. Aneurysmal Subarachnoid Hemorrhage

C. MAHAJAN

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Foreword

There has been substantial flux in the field of neuroanesthesia over the past two decades. This followed what could be viewed as a relatively quiescent and narrowly focused period in neuroanesthesia. During the latter period much of the focus was on the roles of hypotension in aneurysm surgery, hyperventilation for head injury, anesthetics as cerebral protectants, and endless debates about intravenous versus inhaled anesthetics. More recently the purview of neuroanesthesia broadened substantially partly reflecting the huge expansion in the way patients with neurological diseases are managed. Patients are cared for not only in the traditional operating theater and intensive care unit but also in more complex ways inside and outside the operating theater. Examples include endovascular treatment of aneurysms, magnetic resonance imaging (MRI)- and computed tomography (CT)-guided surgery, minimally invasive approaches such as deep brain stimulation (DBS), the growth in neurological monitoring from the awake patient to complex electrophysiology, and the ever increasingly aggressive spine reconstructions. The neuroanesthesiologist of today is not only a traveler going to different parts of the hospital but needs to be an expert in patient management in all the newer scenarios. Furthermore, this expansion of the repertoire requires greater refinement in our intimate knowledge of how drugs and techniques may enhance or adversely affect the nuanced neurosurgical outcomes.

Given the above changes in practice, the novice and experienced neuroanesthesia practitioners now, more than ever, need an authoritative text not just full of "book knowledge" but written by those who on a daily basis meld the academic with the practical. To his credit, Hemanshu Prabhakar has brought together an accomplished group of international experts to contribute to this excellent volume. Their writing is authoritative and up to date while being practical and easy to understand. There is no doubt that this book is a very useful contribution to the modern practice of neuroanesthesia.

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Preface

Neuroanesthesia is growing fast as a superspecialty as more and more research is being conducted to improve the practice. The focus is now not restricted to the *bench* but has also extended to the *bedside*. There is a need to have a volume that provides a comprehensive view of various topics and issues related to neuroanesthesia. This book provides easy understanding of anesthesia related to neurological sciences. This book will be useful for any medical practitioner associated with neurosurgical and allied branches such as neurology and neuroradiology. This book also caters to the needs of all those anesthetists who practice neuroanesthesia but do not have a formal training in it. It will provide a quick and easy access to understand neuroanesthesia. This book will provide an insight into all possible aspects of anesthetic management of neurosurgical and neurologic patients. This book has been written mainly for the residents and students appearing for examination and anesthetists practicing neuroanesthesia. This book includes the basic sciences such as anatomy, physiology, and pharmacology related to brain and spinal cord. This book also provides an understanding of related issues such as palliative care, evidence-based practice of neuroanesthesia, sterilization techniques, and ethical issues.

This book covers all topics related to neuroanesthesia and provides complete knowledge about brain and spinal cord. The book includes chapters related to allied specialties such as critical care, neurology, and neuroradiology. This book also contains a section on biostatistics, which would be extremely useful to residents and trainees who have to submit dissertation or thesis during their course.

This book contains pieces of information that have been brought together, which may have otherwise been available in different books.

I am grateful to all my authors across the globe, from as many as 14 different countries. The knowledge and information shared by the authors through different chapters is the representation of the global practice of neuroanesthesia and not limited to geographical boundaries. I sincerely hope this endeavor will improve our knowledge in the management of neurologically compromised patients and bring about an improved patient care.

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