REFERENCES


TERRY WICKS, CRNA, MHS
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Response

I would like to thank Mr. Wicks for his prompt response and critique of my letter titled "Mivacurium: A replacement for suxamethonium?" in the February 1993 AANA Journal.

My apologies to all readers, as there is an erratum in the original letter. The word "physostigmine" should be replaced with "neostigmine." The sentences should read:

1. "Two patients had pseudocholinesterase deficiency, another had a prolonged block of unknown etiology, and one received neostigmine."
2. "Additionally, one of these patients, upon apparent recovery from mivacurium, and neostigmine administered to 'expedite recovery' and became 'weak again.'"

The original letter was not written as a policy statement for the Council for Public Interest in Anesthesia, nor as a case presentation, but as a locus to stimulate discussion of the drug and potential problems. Please see the case study which was recently published in the January 1993 issue of Anesthesia and Analgesia.

Additionally, upon submitting my original letter, I realized my anecdotal comments might be subject to criticism. However, I never denied the individual provider's responsibility for any of the situations, as implied in Mr. Wicks's letter. I related these experiences to highlight potential pitfalls associated with mivacurium administration, as mivacurium is a relatively new drug in the anesthesiology pharmacological armamentarium.

Again, I would like to thank Mr. Wicks for his critical thinking and dialogue of which the original letter was intended to elicit.

REFERENCE


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Book Reviews


Modern anesthesiology has witnessed the introduction of many drugs and techniques that render patients insensible to surgical stimulation and monitor their physiological status. Unfortunately, all of these therapeutic and diagnostic modalities have complications ranging from minor inconveniences to permanent disabilities and death. An awareness and description of the causal modalities of these complications is essential to the anesthetist in deciding what methods to use and in diagnosing and treating the complications associated with their use. Anesthesia and Perioperative Complications presents an extensive compilation of those complications.

The primary authors, Jonathan Benuomof, MD, and Lawrence Saidman, MD, are professors of Anesthesiology at the University of California, San Diego. Contributing authors include Fredric Berry, MD, professor of Anesthesiology and Pediatrics at the University of Virginia Health Science Center; Simon Gelman, MD, PhD, professor and chairman at the University of Alabama at Birmingham; Robert Stoelting, MD, professor and chairman of Anesthesia at Indiana University; and 46 other notable authors. This logically organized hardcover text has 694 pages spanning 30 chapters. The chapters are based on either complications from particular methods of anesthesia or chapters specific to the type of complication.

Part one focuses on complications from specific anesthetic events. Its first chapter appropriately begins with airway management, noting that complications from respiratory events are the single largest source of injury to patients. A thorough description of complications from the unrecognized esophageal intubation to complications of relatively new procedures, such as fiberoptic and retrograde wire intubation, are presented.

Chapter 2 discusses the complications of cardiovascular access. The problems associated with peripheral intravenous access are limited to a brief discussion of infection, phlebitis, hematoma, and extravasation. Complications of arterial, central venous, and pulmonary artery catheterization are discussed more thoroughly.

Chapters 3 and 4 cover the complications of regional anesthesia and nerve blocks. Spinal, epidural, and caudal anesthesia are discussed in Chapter 3, and other nerve blocks are considered in Chapter 4. A thorough description is given of complications from failure of the technique to more serious complications of nerve damage and cardiac arrest. Although Chapter 3 has only three tables for illustrations, Chapter 4 has 11 illustrations including drawings and radiographs of the complications of nerve blocks.

Chapter 5 deals with complications that are the result of equipment failures. A meticulous description of anesthesia machine and equipment pitfalls is provided. Descriptions and illustrations of the commonly used anesthesia machines, breathing circuits, and ventilators is provided. This 50-page chapter describes both equipment failures and the misuse of equipment, for example, filling an agent-specific vaporizer with the wrong agent.

Chapter 6 is a compilation of complications relating to drugs used in anesthesia. It begins with two useful lists. The first list details the complications of approximately 125 drugs
used in anesthesia, including inhalation agents, intravenous
anesthetics, narcotics, local anesthetics and muscle relaxants. It
is not restricted to anesthetic agents but also incorporates adju-
vants including a variety of drugs administered in the perioper-
ative period, such as catecholamines, beta-adrenergic blockers,
diuretics, antidysrhythmic drugs, and antibiotics. Some of
the drugs are mentioned individually and some, such as the
benzodiazepines, monoamine oxidase inhibitors, and pheno-
thiazines, are listed as classes of drugs. The second list enumer-
ates drug interactions that are important to anesthetists. The
text of the chapter elaborates upon the complications and inter-
actions noted in the lists. The listings of drug-related complica-
tions are necessarily brief but complete.

Chapter 7 focuses on perioperative nerve injuries. Unlike
Chapters 3 and 4, which deal with complications of regional
anesthesia and nerve blocks, this chapter focuses on nerve inju-
ries from other sources, most notably, positioning injuries. It
includes four illustrations of positions that lead to nerve injury.

Chapter 8 provides a very useful review of the complica-
tions associated with monitoring. It discusses various monitors
used in relation to four categories: reliability, interpretability,
usefulness, and complications. Thus, it discusses the physical
complications which result from inaccurate reading or misin-
terpretation of accurate data.

Part two is titled "The Causes of Systemic Complications." Chapters 9 through 11 discuss the pathophysiology, diagnosis,
and treatment of impaired gas exchange, arrhythmias, hypo-
tension, hypertension, perioperative myocardial ischemia, and
infarction. Chapter 12 is a detailed presentation of complications related to cardiopulmonary bypass.

Chapters 13 through 16 cover the causes of hyperglycemia and
hypoglycemia, hypothermia and hyperthermia, impaired
central nervous system function, and immunological complica-
tions. Although the chapter on hyperglycemia and hypoglyce-
mia is sparse at four pages and without illustration, the other
chapters provide thorough descriptions of their areas and in-
clude helpful illustrations, tables, and lists. Chapter 17 is dedi-
cated to nausea and vomiting and begins with an excellent
review of the physiology of nausea and vomiting. After detail-
ing the preoperative states that predispose patients to nausea
and vomiting and a review of the effects of anesthesia on nausea
and vomiting, methods of treating nausea and vomiting are
discussed. The table listing drugs used for the prevention and
treatment of nausea and vomiting would be a useful reference
for preoperative and postanesthesia recovery units.

Chapters 18 through 23 cover complications of the liver,
hypovolemia, renal dysfunction, electrolyte disorders, disor-
ders of blood transfusions, maternal-fetal complications, and
complications of the very young. All are well-organized and
written. Chapter 22 on maternal-fetal complications contains
the book's only discussion of an important anesthetia compli-
cation—awareness under anesthesia. The discussion of this sub-
ject is limited to one-half page. Chapter 24 is unique in its focus
on the complications to the anesthetist, rather than those to the
patients. It begins by discussing occupational exposure to waste
gasses, infections, and environmental pollutants. It then dis-
cusses the problems that relate to personal stress including
substance abuse, burnout, and suicide.

Part three considers medicolegal considerations of anes-
thetic complications and is comprised of assessment of anes-
thetic risk, a review of the findings of the ongoing American
Society of Anesthesiologists Closed Claims Project, the cost of
adverse outcomes, quality assurance, and what to do if sued.

Drs. Benuof and Saidman have created an encyclopedic
review of the complications of anesthesia. Anesthesia and Peri-
operative Complications supplies descriptions of both the normal
states and the anesthesia-related events that lead to untoward
outcomes. Because assessment and prevention of peroperative
complications are important to all anesthesia practitioners, this
book would be a useful addition to any anesthesia department.

Individual practitioners may also find this text useful for its
logically organized review of anesthesia-related complications.

However, if the practitioner has an interest in a particular
complication, such as awareness under anesthesia, the book
should be examined to be sure that the subject is sufficiently
covered for the reader's needs.

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Case Presentations in Anaesthesia & Intensive Care. By
Kenneth J. Power, BM, MRCP, FCAnaes. 122 pages,
$29.95, Stoneham, Massachusetts: Butterworth-
Heinemann, 1992.

"Candidates studying for postgraduate medical examinations
often find that learning from case histories provides an enjoy-
able break from some of the drudgery of textbook revision,"
notes Dr. Kenneth Power in his introduction to Case Presentations
in Anaesthesia & Intensive Care. In addition to being a useful study
guide for examination candidates, this book is a practical self-
assessment guide for anesthetists in practice. The author is a
consultant (attending physician) in anesthesia and intensive
care at the Poole General Hospital, Poole, Dorset, England.

Thirty-one cases are discussed in the areas of anesthesia
and critical care. Each case presentation consists of a short
history of the relevant findings from physical examination,
including x-rays, electrocardiograms, laboratory results, and
other studies. Questions highlighting difficult or controversial
topics are followed by comprehensive discussion.

Those who were educated before comprehensive American
texts (such as Miller's Anaesthesia and Barash et al's Clinical
Anesthesia) were available may remember studying Wylie and
Churchill-Davidson's A Practice of Anaesthesia. Like Wylie and
Churchill-Davidson, Power presents information with minimal
verbosity. Certain British drug names, such as suxamethonium,
will be recognizable; others, such as bendrofluazide, will not be
as easy to categorize. The kPa unit of measurement, as opposed
to millimeters of mercury, may prompt some head-scratching.

Most of the author's statements are not referenced. It ap-
pears that the information presented is culled from his clinical
experience, his interpretation of the current literature, and
professional society recommendations, such as the Royal Col-
lege of Radiologists' Guidelines for preoperative chest x-rays.

An impressive array of topics is covered, befitting an examina-
tion study guide. Subjects such as pre-eclampsia, trauma,
hemoglobinopathies, the porphyrias, septicemia, and cardio-
vascular pathophysiology are discussed in the context of their
relevant anesthesia and critical care applications.

The author notes that "in such a relatively small (122 pages)
book, the discussions are not intended to be exhaustive reviews
of each and every topic mentioned, but rather aim to address a
wide variety of issues, alerting the reader to areas where further
thought or reading might prove valuable." Dr. Power fulfills his
goal of "[underpinning] clinical practice with a clear understand-
ing of relevant physiology and pharmacology and to pro-

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vide appreciation of how these may be modified by disease states and coexisting medical conditions."

Case 21 illustrates the usefulness of this book despite some of the obvious differences between drugs and equipment used in Great Britain versus those used in North America:

"A 60 year old woman with an unremarkable medical history, including one previously uneventful anesthetic for a cholecystectomy, was anesthetized for a total hip replacement. She was starved preoperatively and given diazepam 10 mg as a premedicant. Anesthesia was induced (fentanyl 150 µg, thiopentone 300 mg, alcuronium 20 mg), and a cuffed endotracheal tube was passed with ease. She was transferred to the operating theatre and connected to a Manley ventilator delivering nitrous oxide and oxygen plus halothane at a fresh gas flow of 6 liters per minute. The pulse oximeter indicated a saturation of 99%. She was turned on her side and the operation commenced. Shortly afterwards the ventilator started to 'judder' and the weight failed to 'bottom out.'

The saturation fell to 88% and on listening to the chest wheezing was noted."

Study items which follow include the possible causes for this disturbance (i.e., bronchospasm versus a kinked endotracheal tube versus cuff herniation), the sequence of events one would go through to determine cause, and how the situation could be rectified. Dr. Power remarks that if the patient in this situation was impossible to ventilate manually, the patient should be ventilated by bag and mask.

Readers interested in the crystalloid-colloid fluid replacement controversy will appreciate this author’s description of gelatin group colloid substances used in England and their advantages over both hetastarch and crystalloid (page 67).

Altered cardiovascular and respiratory physiology encountered in septic shock are discussed in Case 9. Reactive airway disease and implications for mechanical ventilation in this state are capably covered in Case 26.

Dr. Power states that this book is not exclusively aimed at candidates for any particular part of the (British anesthesiology) Fellowship examination but hopefully will provide something of interest to anesthetists at all stages of their clinical training. Both experienced practitioners and new graduates preparing to take the AANA Council on Certification of Nurse Anesthetists Certification Examination would benefit from this book.

Since CRNAs provide anesthesia and critical care consultation in many American hospitals, insights provided here are useful, both for colleagues in rural and urban settings. Foreign literature provides reminders that: (1) familiar dogma does not necessarily provide the best solution to vexing clinical situations, and (2) there are interesting parallels in anesthesia practice that transcend geographic boundaries.

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