

Controversies in the Anesthetic Management of the Obese Surgical Patient

Yigal Leykin
Jay B. Brodsky *Editors*

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Editors

Yigal Leykin
Department of Anesthesiology
ICU and Pain Therapy
Santa Maria degli Angeli Medical Center
Pordenone
Italy

Jay B. Brodsky
Department of Anesthesia
Stanford University Medical Center
Stanford, CA
USA

and

Contract Professor of Anesthesia and ICU
University of Trieste
Trieste
Italy

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Preface

When an anesthesiologist is asked to provide care for a patient there are usually two major areas that must be considered in planning the actual approach to management. The first concern is “what are the specific requirements for the procedure?” Obviously the anesthetic management of a patient undergoing a laparotomy is quite different from the management of the same patient undergoing a craniotomy. The second area of concern is potentially far more complicated since each patient is different. “What are the physical and medical conditions of the specific patient that the anesthesiologist must know which will affect the actual management?” In other words, “how will I tailor my choice of agents and their doses, the positioning and monitoring of the patient, and essentially all other aspects of anesthetic management for this specific patient undergoing this specific procedure?” In clinical anesthetic practice, there is probably no other group of patients in which these major areas of concern coincide and who present a greater challenge than the patient with extreme or morbid obesity (MO). The management of a MO patient is never simple.

Extreme obesity always alters physiology, particularly cardiac, respiratory, and metabolic functions. MO patients almost invariably have significant associated medical comorbidities, which can include hypertension, Type-2 diabetes, obstructive sleep apnea, coronary and cerebrovascular disease, liver problems, and many types of cancer; all of which must be considered when planning the anesthetic. A subset of obese patients, those with the metabolic syndrome (MetS), is at even greater risk for having serious associated medical problems and perioperative complications. Even in young, otherwise healthy MO patients, their extreme weight makes them susceptible to neurologic and pressure injuries during routine intraoperative positioning. Every MO patient, including those undergoing the least invasive operations and with a minimum of anesthesia, can present a challenge for safe management.

The worldwide obesity epidemic we have experienced during the past 20 years means that thousands of MO patients undergo anesthesia and surgery daily for every type of operation. Given this high volume of cases it is logical to think that every area of the perioperative care of the obese patient has been evaluated, studied, and the data then published in the medical literature. By now every practicing anesthesiologist should be familiar with every aspect of the

management of these patients. Unfortunately, that is not the situation we currently find ourselves in. For many areas of anesthetic care we still do not know the best approach and whether that approach should differ between normal weight and MO patients. Unfortunately, clinical research studies, particularly pharmacologic studies, until now have often excluded obese patients from their protocols. Therefore, many aspects of clinical care of the MO patient remain controversial often without a consensus agreement as to what constitutes “best practice”.

In this book we consider many of the important unresolved controversies in the anesthetic management of obese patients. An international group of experts have reviewed the pertinent data that are currently available to us through the medical literature. In many instances that information comes directly from studies authored by these same authors. After consideration of the various possible approaches each chapter gives recommendations on how to manage the MO patient. This information is especially important when that care differs from the normal population. There are no “black and white” answers to many of the questions posed in the title of each chapter, but the authors provide clinically relevant guidance on how to approach MO surgical patients.

The editors would like to thank each of the contributing authors who took time from their busy practices to share their expertise and opinions with us. We recognize that in the future some if not many of their recommendations may change as more experience is gained, as more studies are completed, and more data are published on the subjects considered in this book. That is the nature of medicine—practices always change as more knowledge is obtained and then shared. For now, the 27 topics considered in this book can serve to guide the clinician in the safe management of these potentially difficult patients.

Pordenone, Italy
Stanford, CA, USA

Yigal Leykin
Jay B. Brodsky

Contributors

Adrian O. Alvarez Department of Anaesthesia, HIBA, Buenos Aires, Argentina

Luc E. C. De Baerdemaeker Professor in Anesthesia, Ghent University Hospital, Ghent, Belgium

Donald P. Bernstein Department of Anesthesiology, Palomar Medical Center, Escondido, CA, USA

Marco Berti Anesthesiology, Intensive Care and Pain Therapy, University Hospital of Parma, Parma, Italy

Jay B. Brodsky Department of Anesthesia H3580, Stanford University Medical Center, San Francisco, CA, USA

Claudia Brusasco Department of Anesthesia and Intensive Care, University Hospital, Uppsala, Sweden

Luca Busetto Department of Medical and Surgical Sciences, University of Padua, Padua, Italy

Sebastiaan Van Cauwenberge General, Pediatric and Vascular Surgery, AZ Sint-Jan, Brugge, Belgium

Chiara Maria Celestre Department of Anesthesia and Intensive Care, Medical School, Catania, University-Hospital, Catania, Italy

Frances Chung Department of Anesthesia, Toronto Western Hospital, University Health Network, University of Toronto, Toronto, Canada

Jeremy S. Collins Department of Anesthesia, Anesthesia Stanford University, Stanford, CA, USA

Bruno Dillemans General, Pediatric and Vascular Surgery, AZ Sint-Jan, Brugge, Belgium

Guido Fanelli Anesthesiology, Intensive Care and Pain Therapy, University Hospital of Parma, Parma, Italy

Francesco Giunta IV Anesthesia and Intensive Care, University of Pisa, Pisa, Italy

Samuel Grodofsky Department of Anesthesiology and Critical Care, Perelman School of Medicine, University of Pennsylvania, Philadelphia, PA, USA

Antonino Gullo Department of Anesthesia and Intensive Care, Medical School, Catania, University-Hospital, Catania, Italy

Grégory A. Hans Department of Anesthesia and Intensive Care Medicine, CHU of Liège, Liège, Belgium

Jerry Ingrande Department of Anesthesia, Stanford University School of Medicine, Stanford, CA, USA

Jean L. Joris Department of Anesthesia and Intensive Care Medicine, CHU of Liège, Liège, Belgium

Andrew Kendall St Richards Hospital, Chichester, UK

T. Edward Kim Department of Anesthesiology and Perioperative Care, Stanford University School of Medicine, Veterans Affairs Palo Alto Health Care System, Palo Alto, CA, USA

Philippe van Lancker Anaesthesiology, AZ Sint Jan Brugge-Oostende, Bruges, Belgium

Harry J. Lemmens Department of Anesthesia, Stanford University Medical School, Stanford, CA, USA

Yigal Leykin Contract Professor of Anesthesia and ICU, University of Trieste, Trieste, Italy

Jurgen G. M. van Limmen Department of Anesthesia, Ghent University Hospital, Ghent, Belgium

Mike Margaron Department of Anaesthesia, St Richards Hospital, Chichester, UK

Edward R. Mariano Department of Anesthesiology and Perioperative Care, Stanford University School of Medicine, Veterans Affairs Palo Alto Health Care System, Palo Alto, CA, USA

Elena Marini IV Anesthesia and Intensive Care, University of Pisa, Pisa, Italy

Linda Miotto Department of Anesthesia and Intensive Care, Santa Maria degli Angeli Hospital, Pordenone, Italy

Jan P. Mulier Anaesthesiology, AZ Sint Jan Brugge-Oostende, Bruges, Belgium

Heather Murray St Richards Hospital, Chichester, UK

Yves van Nieuwenhove Professor in Surgery, Ghent University Hospital, Ghent, Belgium

Annalaura Paratore Department of Anesthesia and Intensive Care, Medical School, Catania, University-Hospital, Catania, Italy

Tommaso Pellis Department of Anesthesia, Intensive Care, and Emergency Medical Service, Santa Maria degli Angeli Hospital, Pordenone, Italy

Paolo Pelosi Department of Anesthesia and Intensive Care, University Hospital, Uppsala, Sweden

Daniel M. Pöpping Department of Anesthesiology and Intensive Care, Münster University Hospital, Münster, Germany

Henrik Reinius Department of Anesthesia and Intensive Care, University Hospital, Uppsala, Sweden

Waleed Riad Department of Anesthesia, Toronto Western Hospital, University Health Network, University of Toronto, Toronto, Canada

Steven Rimbaut Department of Physical and Rehabilitation Medicine, Ghent University Hospital, Ghent, Belgium

Antonio Rubino IV Anesthesia and Intensive Care, University of Pisa, Pisa, Italy

Claudio Di Salvo IV Anesthesia and Intensive Care, University of Pisa, Pisa, Italy

Stephan A. Schug Anaesthesiology, Pharmacology and Anaesthesiology Unit, School of Medicine and Pharmacology, University of Western Australia, Director of Pain Medicine, Royal Perth Hospital, Perth, WA, Australia

Roman Schumann Department of Anesthesiology, Tufts Medical Center, Tufts University School of Medicine, Boston, MA, USA

Ashish C. Sinha Department of Anesthesiology and Critical Care, Perelman School of Medicine, University of Pennsylvania, Philadelphia, PA, USA

Fernanda Tagliaferri Anesthesiology, Intensive Care and Pain Therapy, University Hospital of Parma, Parma, Italy

Raffaella Troglio Anesthesiology, Intensive Care and Pain Therapy, University Hospital of Parma, Parma, Italy

Hanne Vanommeslaeghe General, Pediatric and Vascular Surgery, AZ Sint-Jan, Brugge, WV, Belgium

Luis A. Verduzco Department of Anesthesia, Stanford University Medical School, Stanford, CA, USA

Anupama Wadhwa Anesthesiology & Perioperative Medicine, University of Louisville, Louisville, KY, USA

Manuel Wenk Department of Anesthesiology and Intensive Care, Münster University Hospital, Münster, Germany

Gianfederico Zannier Department of Anesthesiology, ICU and Pain Therapy, Santa Maria degli Angeli Medical Center, Pordenone, Italy

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Part I

Introduction

Should Anesthesiologists Managing Morbidly Obese Patients Receive Special Education and Training?

1

Anupama Wadhwa and Adrian O. Alvarez

Abstract

Morbidly obese patients have a growing population presenting for both bariatric and nonbariatric surgery. Anesthesiologists unfamiliar in dealing with this patient population may either be caught unaware with the challenges of this patient population or alternately, subject these patients to unnecessary procedures like awake fiberoptic intubations when they can be intubated with direct laryngoscopy. There are no current fellowships in United States in bariatric anesthesia nor are there mandatory rotations for residents by ACGME in dealing with morbidly obese patients. We present challenges in dealing with morbidly obese patients and propose a structured curriculum to train residents and/or trained anesthesiologists in dealing with morbidly obese patients.

1.1 Introduction

There are many reasons why we believe that special training would be advisable for anesthesiologists involved in the health care of morbidly obese (MO) patients. The management of these patients differs from that of normal-weight patients and this book has focused on many of those differences.

With 200 million people in the United States and more than one billion people worldwide obese or overweight [1], anesthesiologists have seen a continued increase in MO patients in their clinical practice. Bariatric surgery today is the only effective

A. Wadhwa (✉)
Anesthesiology & Perioperative Medicine,
University of Louisville, Louisville, KY, USA
e-mail: wadhwaanu@me.com