Transanal Endoscopic Microsurgery

Peter A. Cataldo • Gerhard F. Buess
Editors

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Principles and Techniques

Foreword by David J. Schoetz, Jr.

Springer

Editors
Peter A. Cataldo
University of Vermont
College of Medicine
Burlington, VT, USA

Gerhard F. Buess
Eberhard Karls Universitaet
Tuebingen
Tuebingen, Germany

ISBN: 978-0-387-76397-2 e-ISBN: 978-0-387-76398-9
DOI 10.1007/978-0-387-76397-2

Library of Congress Control Number: 2008936555

Printed on acid-free paper

springer.com

I would like to dedicate this book to my family: To my mother, Anne Cataldo, who has taught me I can do anything if I put my mind to it, and to the memory of my father, Felix G. Cataldo, who continues to inspire me; to my wife, Eileen, and my daughters, Colleen and Anna, the reasons I wake up every morning. One final thanks to all my patients who challenge me, inspire me, and bring me satisfaction and gratification beyond measure.

Peter A. Cataldo

Foreword

Cancer of the rectum continues to be a significant health problem in industrialized countries around the world. Relative 5-year survival rates in the USA for cancer of the rectum from 1995 to 2001 improved to 65%, a 15% improvement over 20 years (American Cancer Society, 2007). The reasons for this dramatic improvement include more accurate preoperative staging, aggressive neoadjuvant therapy and improved surgical technique as well as specialty-trained surgeons.

Despite advances in nonoperative techniques of radiation therapy, chemotherapy and immunotherapy, surgical extirpation continues to be the cornerstone of curative treatment of this potentially lethal disease. Radical cancer excision with total mesorectal excision has become the preferred surgical procedure for even early-stage cancers of the rectum. Over the past decade the enthusiasm for local excision (and other local treatments) has given way to persuasive (predominantly retrospective) evidence that the incidence of locoregional recurrence due to unsuspected lymphatic metastases and positive lateral margins is unacceptably high even for stage T_1 tumors. Vigorous attempts to find characteristics of the tumor that would allow successful local treatments are ongoing.

Transanal endoscopic microsurgery (TEM) is a technique for the performance of local excision by way of a binocular magnified operating system developed in the early 1980s. Adoption of the technique was slow, due in part to the complexity of the operative procedure as well as the expense of the equipment. Early adopters of the procedure were few in number. As laparoscopic surgery became more widespread, basic ability to work from a flat screen in relatively small spaces became more commonplace and TEM seemed more feasible. More and more units around the world purchased the equipment and applied the techniques of TEM, particularly in patients with distal rectal cancers for whom radical cancer excision represented the creation of a permanent colostomy.

Peter Cataldo has collected contributions from internationally recognized experts in TEM as well as local excision of rectal cancer. Beginning with a frank discussion of the broad indications and potential problems with TEM, the book then presents a comprehensive pictorial atlas of equipment and setup and a candid presentation of how to get started with the procedure. Complications do occur and are frankly presented.

When one starts doing TEM, the most striking improvement over conventional local excision is the magnification and optical resolution that must result in a better local procedure. Repeatedly, this observation is made by the contributors to this book. One author presents a local recurrence rate for TEM in stage T_1 and T_2 cancers of 0%. All of the published comparative trials demonstrate significantly better oncologic results for rectal cancer treated by TEM than by conventional local excision.

Of interest is the fact that TEM has finally been adopted by the colorectal surgical community at the same time as the current majority opinion is that radical cancer excision is

much preferred for distal rectal cancer. Clearly, all of the returns regarding treatment of distal rectal cancer are not in and much of what we do now will change in the near term as techniques evolve.

Not surprisingly, creative individuals have applied TEM for other indications, including benign rectal lesions, complex fistulas and rectourethral and rectovaginal fistulas and even natural orifice transluminal endoscopic surgery (NOTES). As expertise and applications expand, the only limit to the use of this technology (and subsequent improvements) is the imagination of the users.

To my knowledge, this volume represents the first comprehensive description of TEM; it is succinct yet comprehensive and will be a necessary partner in the development and application of this relatively newly discovered procedure.

David J. Schoetz, Jr.
Professor of Surgery
Tufts University School of Medicine
Boston, MA, USA
Lahey Clinic
Burlington, MA, USA

Preface

Transanal endoscopic microsurgery (TEM) was developed in the early 1980s in Tübingen, Germany, by Gerhard Buess and the Richard Wolf Medical Instrument Company to remove large rectal polyps beyond the reach of standard transanal excision. It has blossomed into a valuable, state-of-the-art technology equal to any other technique in terms of reliably positive patient outcome. Its role has expanded beyond excision of colonoscopically unresectable polyps to include removal of select, early rectal cancers with or without adjuvant chemoradiation therapy, the treatment of anastomotic strictures, and repair of proximal, complex rectal fistulae. TEM was initially embraced more rapidly in Europe (particularly Germany and Italy), but is now becoming well established in the USA and Canada. TEM has been embraced by many of the leading teaching hospitals and highly respected colon and rectal clinics throughout the USA. The number of cases performed each year is increasing substantially, with an estimated 800 performed in 2007.

Transanal Endoscopic Microsurgery: Principals and Techniques is the first and only book solely dedicated to TEM and we are hopeful it will become the standard reference for the technique. It is our hope that the book will be well received and widely read so that all patients who can benefit from this technique will have that opportunity. Expert authors from around the world have dedicated their precious time and created outstanding chapters on all aspects of TEM. Special thanks to each of them. Gerhard Buess, the father and inventor of TEM, has worked countless hours creating an incredibly detailed DVD with outstanding video clips that clearly and beautifully demonstrate all the important technical aspects of this challenging procedure. He has been and continues to be a mentor to me and many other TEM surgeons. We are all profoundly grateful.

In addition, Tina Blais-Armell has worked tirelessly, without complaint, and with little thanks to coordinate the efforts of all involved; without her there would be no book. I owe her a great debt of thanks. Paula Callaghan and Lindsey Reilly from Springer have provided much needed help in moving this project along, prodding those who needed prodding and doing all the little things no one notices—thank you Paula and Lindsey!

Peter A. Cataldo

Contents

Contributors

Maddalena Baldarelli, MD
Clinica di Chirurgia Generale e Metodologia Chirurgica, Università Politecnica delle Marche, Ospedali Riuniti di Ancona, Ancona, Italy

Garnet J. Blatchford, MD
Creighton University, Omaha, NE, University of Nebraska Medical Center, Omaha, NE, USA

Ronald Bleday, MD
Section of Colorectal Surgery, Brigham and Women's Hospital, Harvard Medical School, Boston, MA, USA

Gerhard F. Buess, MD, FRCS
Eberhard Karls Universitaet Tuebingen, Tuebingen, Germany

Peter A. Cataldo, MD, FACS, FASCRS
University of Vermont College of Medicine, Burlington, VT, USA

Mark Choh, MD
Rush Medical College, Rush University Medical Center, Chicago, IL, USA

Matthew R. Dixon, MD
Department of Surgery, Kaiser Permanente, Oakland, CA, USA

Charles O. Finne, MD
University of Minnesota, Minneapolis, MN, USA

Prakash Gatta, MBBS
Department of Surgery, University Hospital, University of Cincinnati, Cincinnati, OH, USA

Julio E. Garcia-Aguilar, MD
University of California, San Francisco, San Francisco, CA, USA

Joel E. Goldberg, MD
Brigham and Women's Hospital, Harvard Medical School, Boston, MA, USA

Mario Guerrieri, MD
Clinica di Chirurgia Generale e Metodologia Chirurgica, Università Politecnica delle Marche, Ospedali Riuniti di Ancona, Ancona, Italy

K.S. Khanduja, MD, FACS, FASCRS
Mount Carmel Health System, The Ohio State University Medical Center, Columbus, OH, USA

Lauren A. Kosinski, MD, MS
Lankenau, Bryn Mawr, and Paoli Hospitals, Wynnewood, PA, USA

Emanuele Lezoche, MD
Dipartimento di Chirurgia Paride Stefanini, La Sapienza Universita' Di Roma, Policlinico Umberto I, Rome, Italy

Giovanni Lezoche
Dipartimento di Chirurgia Paride Stefanini, La Sapienza Universita' Di Roma, Policlinico Umberto I, Rome, Italy

Gerald J. Marks, MD
Drexel University, Philadelphia, PA, Marks Colorectal Surgical Associates, Lankenau Hospital, Wynnewood, PA, USA

John H. Marks, MD
Lankenau, Bryn Mawr, and Paoli Hospitals, Wynnewood, PA, USA

Neil J. Mortensen, MD, FR
John Radcliffe Hospital, Oxford, UK

Kim F. Rhoads, MD, MS, MPH
Mt. Zion Cancer Center, University of California, San Francisco, San Francisco, CA, USA

Patricia L. Roberts, MD
Tufts University School of Medicine, Boston, MA, Lahey Clinic, Burlington, MA, USA

Theodore J. Saclarides, MD
Rush Medical College, Rush University Medical Center, Chicago, IL, USA

Lee E. Smith, MD, FACS
Georgetown University, Colon and Rectal Surgery, Washington Hospital Center, Washington, DC, USA

Lee L. Swanstrom, MD
Minimally Invasive Surgery, Legacy Health System and Oregon Clinic, Portland, OR, USA

N. Anh Tran, MD
Creighton University Medical Center, Omaha, NE, USA

Mark H. Whiteford, MD, FACS, FASCRS
Oregon Health and Science University, Legacy Portland Hospitals, Portland, OR, USA