

HOSPITAL PHYSICIAN®

GENERAL SURGERY BOARD REVIEW MANUAL

PUBLISHING STAFF

PRESIDENT, GROUP PUBLISHER
Bruce M. White

EXECUTIVE EDITOR
Debra Dreger

SENIOR EDITOR
Miranda J. Hughes, PhD

ASSISTANT EDITOR
Rita E. Gould

EDITORIAL ASSISTANT
Kara V. Warner

EXECUTIVE VICE PRESIDENT
Barbara T. White, MBA

PRODUCTION DIRECTOR
Suzanne S. Banish

PRODUCTION ASSOCIATES
Tish Berchtold Klus
Mary Beth Cunney

ADVERTISING/PROJECT MANAGER
Patricia Payne Castle

NOTE FROM THE PUBLISHER:

This publication has been developed without involvement of or review by the American Board of Surgery.

 **Endorsed by the
Association for Hospital
Medical Education**

The Association for Hospital Medical Education endorses HOSPITAL PHYSICIAN for the purpose of presenting the latest developments in medical education as they affect residency programs and clinical hospital practice.

Management of Functioning and Nonfunctioning Tumors of the Adrenal Gland

Series Editor and Contributing Author:

Christopher R. McHenry, MD, FACS, FACE

Associate Professor of Surgery, Case Western Reserve University School of Medicine, Director, Division of General Surgery, MetroHealth Medical Center, Cleveland, OH

Contributing Author: Debra J. Graham, MD, FACS

Assistant Professor of Surgery, Case Western Reserve University School of Medicine, Chief, Surgical Service, Cleveland VA Medical Center, Cleveland, OH

Table of Contents

Preface	ii
Introduction	1
Case Patient 1	1
Imaging	2
Therapeutic Options	4
Operative Approaches	5
Summary Points	6
Board Review Questions	7
Detailed Answers	8
References	8

Cover Illustration by Joe Wilder, MD

Copyright 2001, Turner White Communications, Inc., 125 Stafford Avenue, Suite 220, Wayne, PA 19087-3391, www.turner-white.com. All rights reserved. No part of this publication may be reproduced, stored in a retrieval system, or transmitted in any form or by any means, mechanical, electronic, photocopying, recording, or otherwise, without the prior written permission of Turner White Communications, Inc. The editors are solely responsible for selecting content. Although the editors take great care to ensure accuracy, Turner White Communications, Inc., will not be liable for any errors of omission or inaccuracies in this publication. Opinions expressed are those of the authors and do not necessarily reflect those of Turner White Communications, Inc.

HOSPITAL PHYSICIAN®

GENERAL SURGERY BOARD REVIEW MANUAL

Management of Functioning and Nonfunctioning Tumors of the Adrenal Gland

Series Editor and Contributing Author:
Christopher R. McHenry, MD, FACS, FACE
Associate Professor of Surgery
Case Western Reserve University School of Medicine
Director, Division of General Surgery
MetroHealth Medical Center
Cleveland, OH

Contributing Author:
Debra J. Graham, MD, FACS
Assistant Professor of Surgery
Case Western Reserve University School of Medicine
Chief, Surgical Service
Cleveland VA Medical Center
Cleveland, OH

I. INTRODUCTION

This review describes the various imaging modalities available to aid in diagnosing and localizing adrenal masses; it is the second half of a 2-part review on tumors of the adrenal gland. Indications for operation and selection of an appropriate operative approach are also discussed. Sample board review questions and answers are included for self-assessment at the end of this review. The initial evaluation of the patient with an adrenal mass, presented in the first half of this review (“Diagnosis of Functioning and Nonfunctioning Tumors of the Adrenal Gland” in the *Hospital Physician General Surgery Board Review Manual*, Volume 7, Part 2), describes confirming the diagnosis and determining the functional status of the lesion using biochemical and nuclear medicine studies.

II. CASE PATIENT I

PRESENTATION

Patient 1 is a 61-year-old man who presents with a 7 to 10 day history of continuous right-sided abdominal pain radiating to his back. He denies any associated symptoms, such as nausea, vomiting, change in bowel habits,

hematuria, headache, palpitations, or diaphoresis. His medical history is pertinent for resection of the upper lobe of his left lung (10 months before this presentation) because of a *Mycobacterium avium-intracellulare* complex infection that was resistant to antibiotic treatment. Within the excised specimen, a poorly differentiated bronchogenic carcinoma was incidentally found. Nine peribronchial and mediastinal lymph nodes were resected, but not one was involved with tumor. Patient 1 also has a history of chronic obstructive pulmonary disease, benign prostatic hypertrophy, and a 50 pack-year smoking history. His family medical history is unremarkable. A review of systems is pertinent only for a 5-lb. weight loss during the past month, which he attributes to a reduced appetite secondary to his abdominal pain.

DIAGNOSTIC TESTING

Physical examination reveals a blood pressure of 145/66 mm Hg, heart rate of 75 bpm, and temperature of 36.8°C. He has no obvious features consistent with Cushing’s syndrome (CS). He has no palpable adenopathy. His abdomen is soft and nontender with no palpable masses or organomegaly. He has a healed left thoracotomy scar.

A computed tomograph of the abdomen reveals a large, rounded, well-defined, hypodense right adrenal mass that measures 7.5 × 9.4 × 9.6 cm (**Figure 1**). The