

Cambridge University Press

978-0-521-51377-7 - Pearls and Pitfalls in Abdominal Imaging: Pseudotumors, Variants and Other Difficult Diagnoses

Fergus V. Coakley

Frontmatter

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Variants and
Other Difficult
Diagnoses

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Cambridge, New York, Melbourne, Madrid, Cape Town, Singapore,
São Paulo, Delhi, Dubai, TokyoCambridge University Press
The Edinburgh Building, Cambridge CB2 8RU, UK

Published in the United States of America by Cambridge University Press, New York

www.cambridge.orgInformation on this title: www.cambridge.org/9780521513777

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First published 2010

Printed in the United Kingdom at the University Press, Cambridge

*A catalogue record for this publication is available from the British Library**Library of Congress Cataloging-in-Publication Data*

Coakley, Fergus.

Pearls and pitfalls in abdominal imaging : variants and other difficult diagnoses / Fergus
V. Coakley.

p. ; cm.

Includes bibliographical references and index.

ISBN 978-0-521-51377-7 (hardback)

1. Abdomen—Imaging. I. Title.

[DNLM: 1. Radiography, Abdominal—methods. 2. Digestive System Diseases—
radiography. 3. Pelvis—radiography. WI 900 C652p 2010]

RC944.C53 2010

617.5'507572—dc22

2010016392

ISBN 978-0-521-51377-7 Hardback

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This book is dedicated to my parents, Dermot and Maeve, for their constant support and guidance in my early years, and to my wonderful wife, Sara, and our delightful children, Declan and Fiona, who keep me grounded, happy, and in love now that I have reached my later years!

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Preface

This book represents the convergence of three related themes which have occupied a large part of my professional life. First, ever since I started training as a radiologist almost 20 years ago, I have been intrigued by the “pattern recognition” that lies at the heart of our specialty. This approach to diagnosis can be very powerful, but also prone to error if different entities look the same. As a first year resident reading out the overnight Emergency Department plain films at Leicester Royal Infirmary, hardly a fracture went reported without checking our heavily thumbbed and coffee-stained edition of Keats [1] for possible mimics or confounders. Second, one of my most popular postgraduate lectures is entitled “Pearls and pitfalls in abdominal CT,” and this talk grew out of my early interest in normal variants simulating disease. It is clear that all radiologists struggle with the basic questions as to whether a study is normal or abnormal, or whether findings of a given diagnosis can be due to anything else. Third, most physicians are perfectionists and dislike making mistakes, especially when those mistakes can be harmful to patients. We are entrusted with caring for patients who are often at their sickest and most miserable. Anything we can do to improve their care fulfills our duty to them, and also helps address ongoing and legitimate public concern regarding medical errors and patient safety [2, 3]. The literature consistently suggests that 1.0 to 2.6% of radiology reports contain serious errors [4–6]. My experience in clinical practice, in running a quality assurance program, and in medical malpractice work has convinced me that many of these interpretative mistakes in abdominal imaging are avoidable. These convergent processes motivated me to write this book.

In a nutshell, the core concept of this work is to bring together those abdominal imaging entities that can cause confusion and mismanagement in daily radiological practice, and provide a tightly focused textbook that can be readily used as bench-side reference to avoid these problems. The “pearls and pitfalls” include technical artifacts, anatomic variants, mimics, and a miscellany of diagnoses that are under-recognized (e.g., adenomyomatosis of the gallbladder) or only recently described (e.g., pseudocirrhosis of fulminant hepatic failure). The common denominator is that these entities present real problems for the practicing radiologist. I have attempted to cover all major modalities within the contemporary practice of abdominal imaging, including ultrasound, CT, PET/CT, and MRI. Pitfalls at radiography and fluoroscopy are largely excluded, in order to reflect the reality of current practice. This is not a value judgment, but simply reflects the evolving nature of radiology—this book would have been very different if written 50 or even 25 years ago. My aim is to provide an easily used resource when a practicing radiologist sees something odd or confusing, and also to provide examples of common medicolegal pitfalls (e.g., mistaking

perforated colon cancer for diverticulitis, or missing strangulated obstructed bowel). The conditions were selected based on my experience working in a busy academic tertiary referral center. As far as possible, I have tried to include diagnoses that are clinically important (e.g., benign conditions that can look malignant, malignant conditions that can look benign, and normal variants that may prompt unnecessary additional tests) rather than including mimics that may be interesting but clinically unimportant (e.g., confusing one benign condition for another is usually of no great clinical consequence). Similarly, I have tried to include pitfalls that occur with some reasonable frequency and are not extreme exotica – as a rough rule of thumb, I have only included a given entity if I have seen it more than once. Inevitably, as a single author trying to pull together a group of thematically linked but diverse diagnoses, the result is eclectic and reflects my personal experience. Hopefully, any resulting omissions or bias will be offset by some uniformity of thought and approach. But if I have omitted any item that merits inclusion or committed any other errors, please let me know, in anticipation of a second edition!

In order to provide structure to the book content, the imaging entities are presented in approximate anatomic order from the diaphragm to the symphysis pubis, with grouping by location and organ system. Within each group, I have also tried to arrange items anatomically – for example, in the gastrointestinal tract, the items begin with the stomach and proceed to the large bowel. Other things being equal, I have tried to order by frequency, so that rarer entities or conditions that are only seen on one modality are described after more common items. The book is heavily illustrated, with a relatively small amount of text, since I am a strong believer in the teaching power of images over words. I have tried to make the text user-friendly, with an informal tone. The text for each entity follows the same format (imaging description, importance, typical clinical scenario, differential diagnosis, and teaching point). As such, each entity stands alone and can be read in isolation. A busy reader could probably make do by reading the teaching point and looking at the figures.

In summary, the overarching goal of this work is to provide a resource for the practicing radiologist when they see something that makes them think “that’s weird” or “what else could that be?” Ultimately, the intent is to provide a bench book that assists any radiologist reading out abdominal imaging studies and improves the interpretation of such studies so that patient care is improved. The book is intended for any radiologist that reports abdominal imaging studies as part of their daily practice. I will feel satisfied if anything in this book facilitates a diagnosis that might otherwise not have been made, or prevents a misdiagnosis.

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