
Lowenstein SR. Cambridge, UK: Cambridge University Press, 2018, 340 pages, Paperback $79.99 (USD), eBook $64.00 (USD), ISBN: 978-1-107-53591-6 (Paperback), 978-1-108-55730-6 (eBook)

“Critical Cases in Electrocardiography: An Annotated Atlas of Don’t-Miss ECGs for Emergency Medicine and Critical Care” is a comprehensive compilation of electrocardiograms (ECGs) pertinent to the practice of acute care medicine. The book focuses on everyday practice and interpretation of ECGs.

This book consists of 8 chapters. The first 7 chapters are structured in a similar format, consisting of key points, brief explanations, and clinical pearls, and a review of ECGs with clinical correlates. Each chapter then concludes with a set of self-study questions.

The author engages the reader using a conversational style with clinical scenarios for each and every ECG in the book. Interestingly, all the ECGs in the book are those of real patients with altered identifiers to protect personal health information. At the outset, the author describes the clinical presentation followed by the ECG. After discussing the diagnosis and pertinent ECG findings, he talks about the actual clinical course, which provides closure to the reader’s logical question: what happened to this patient in light of these ECG findings? The author, an experienced emergency medicine clinician, academician, and esteemed educator, knows the importance of tying ECG findings with each patient’s clinical picture and recognizes the clinical intellectual curiosity of the target readers who will surely want to know the patients’ clinical course and outcome. The self-study ECGs are also followed by descriptive notes at the end of each chapter to help the reader solidify the presented concepts.

The first chapter provides a brief review of a normal ECG including its origin, its component waves and intervals, its normal conduction, and some of the normal variants before delving into complex pathology in the subsequent chapters. Even with the presentation of theoretical aspects, the author maintains the interest of the reader with a unique set of ECGs presented after a brief clinical introduction.

The subsequent 3 chapters provide a detailed presentation of ECGs in patients with myocardial infarction, with individual chapters dedicated to anterior, posterior, and inferior myocardial infarction. Utilizing ECGs, the author highlights relevant details including the identification of the culprit artery, recognition of myocardial infarction in the presence of bundle branch blocks, and ST-segment–elevation myocardial infarction equivalents. He provides brief, logical, and sound physiologically backed explanations to the pattern of findings on the accompanying ECGs.

Chapter 5 examines the ECG in a patient with shortness of breath (SOB). With ECG being a commonly ordered test in patients with SOB, this chapter covers various ECG “clues” used for the diagnosis of pulmonary embolism, pericardial effusion/tamponade, myocarditis, and chronic obstructive pulmonary disease.

Chapters 6 and 7 focus on confusing conditions: ST depressions with T inversions and ST elevations with tall T waves, respectively. The author enumerates the various differential diagnoses and tips to differentiate them and narrow down on a diagnosis. The authors’ use of visual-aid pictures to aid in the recall of ECG patterns in specific disease processes (eg, suspension bridge for digitalis effect on ECG) is particularly effective.

The complexity of cases increases as we read further along the book, culminating in chapter 8: critical cases at 3 AM. This chapter is a self-study and review of 38 ECGs incorporating the various disease processes discussed in the preceding chapters, immersed into acute clinical scenarios.

This book makes the case for the importance of recognizing certain ECG patterns that should not be “missed,” due to the drastic implications of not recognizing these diagnoses on patient outcomes. In addition, the book specifically points out the dangers (misdiagnosis) of overreliance on computer-generated algorithms for the interpretation of ECGs.

In addition to the target audience specified by the author in the title, namely emergency medicine and critical care physicians, this book is certainly also relevant to anesthesiologists and hospital medicine physicians, who frequently order and interpret ECGs in the perioperative period, both on an elective and emergency basis.

It is important to emphasize that this is not an in-depth textbook on the description of the physiology behind ECGs, it is rather an atlas, as the title indicates, to review key ECG findings using real-life clinical scenarios.

As stated by Horan and quoted by the author in the preface, “EKG is a form of nonverbal communication from the patient’s heart to the physician.” If you are a physician who monitors, orders, and interprets ECGs on an ongoing basis and want to solidify this nonverbal communication with your patients’ hearts, this book might be for you.

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