Drug-Induced Diseases: Prevention, Detection, and Management 2nd Edition

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This book offers a detailed analysis of how to identify, prevent and manage drug-induced diseases. The editors have defined a drug-induced disease as an unintended effect of a drug that may result in mortality or morbidity with symptoms sufficient to prompt patient to seek medical attention and/or require hospitalisation.

Now in its second edition, the book offers chapters dedicated to over 50 disease states. The chapters are structured in such a way as to make it easy for readers to find specific information relating to these diseass. These chapters are grouped into 12 sections. The first section provides a general overview of the magnitude and significance of drug induced diseases on the healthcare sysem, the epidemiological and public health impact of drug-induced diseases, factors that may contribute to the development of these conditions and the structure and strategy of post-marketing surveillance for their detection. The other sections are organised around specific diseases in which drugs have been implicated as causative agents or, in some cases, the organ system that is involved. Each chapter covers a particular disease state and explores links to medications that can cause the disease. Experts distinguished in their respective specialties have written these chapters. As an example, the section on drug-induced dermatological diseases contains chapters covering drug allergy, pseudoallergy and cutaneous diseases, systemic lupus erythematosus-like syndrome, photosensitivity, alopecia, hirsutism and hypertrichosis. Each chapter follows a consistent structure – causative agents, epidemiology, mechanisms, clinical presentation and differential diagnosis, risk factors, morbidity and mortality, methods of prevention, management and finally, information for patients. Most chapters contain tables of causative drugs, signs and symptoms and conditions to consider in differential diagnosis. Each of the “agents implicated” tables includes an indication of the strength of the evidence that links a listed drug to the specific drug induced disease. This is a significant improvement over the first edition. Each chapter is extremely well referenced with, for example, the chapter on heart failure citing 154 references.

“Drug - Induced Diseases: Prevention, Detection, and Management” is a well-organised, easy to use reference source that fills a sizeable gap in the available literature. It gives

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this vital subject the comprehensive coverage that it deserves. The book will be a useful addition to the library of any healthcare practitioner involved in pharmacotherapy.

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Therapeutic Area: Patient safety

Audience: This textbook is intended as a resource for a broad range of health-care practitioners including pharmacists, physicians, and nurses. The book appears to be useful for health-care practitioners with varying degrees of training, from students to the more experienced, and with varying degrees of interest, from educators to researchers.

Purpose: The purpose of this book is to be a comprehensive review of the prevention, detection, and management of drug-induced diseases. Based on the many drugs that are discussed, it is necessary to be succinct in the descriptions of each potentially causal drug. This textbook would be useful as supplemental reading for a pharmacotherapy course, as a primary text for a patient safety elective course, or as a reference for students during experiential learning.

Content: The textbook contains 12 sections and has a total of 55 chapters. The chapters are divided according to the following definition of drug-induced disease: “an unintended effect of a drug that results in mortality or morbidity with symptoms sufficient to prompt a patient to seek medical attention, require hospitalization, or both.” Based on this definition, the reader will not expect to find drug-induced asymptomatic conditions such as hyperkalemia or hypokalemia in this text.

Usability: The textbook maintains a consistent format between chapters, which include an overview of causative agents, epidemiology, mechanisms, clinical presentations, risk factors, morbidity and mortality, prevention and management. This allows for easy readability. Also, the tables, which contain implicated drug, incidence, and level of

evidence designation, are presented in a consistent format throughout each chapter, making for friendly usability. The appendix is useful for finding information about specific drugs or drug-induced adverse effects without a dedicated chapter.

Highlights: This textbook is comprehensive in its inclusion of potentially causal drugs. It maintains consistency in the structure of the chapters and tables. It must have been a challenge to identify the incidence for each drug in each drug-induced condition and the authors and editors should be commended for reporting this information. Clinicians performing assessments of drug-induced diseases are often curious about the data supporting drug-disease association, so providing information on the level of evidence was a very useful addition.

Limitations: The search strategy for identifying the literature to support the level of evidence designation is not disclosed, suggesting that the same approach was not adopted by each author. There is the possibility that some primary literature was not identified; however, the authors and reviewers selected for this textbook are very knowledgeable in these therapeutic areas. Secondly, the textbook is current to the point of publication; however, it is quite understandable that a resource about drug-induced diseases would require frequent updating. Online updates between editions may be beneficial.

Comparison with Previous Edition: In my opinion, the best addition to this textbook was the modification of tables in each chapter to include information on drug-induced incidence (when available) and level of evidence designation. This edition has the addition of 2 new chapters, including (1) Drug Safety and Drug-Induced Diseases: The Regulatory, Legal and Practice Environments, and (2) Evaluating Patients for Drug-Induced Diseases. Both are useful. Patient safety and prevention of adverse drug events has had a heightened awareness in the ambulatory and hospital settings since the Institute of Medicine Reports were published in 1999. The regulatory bodies and specialized patient safety groups are providing guidance on the detection and prevention of adverse drug reactions (ADRs). Other organizations that are not discussed in the regulatory chapter include the National Patient Safety Goals by the Joint Commission, the National Quality Forum, and the Leapfrog Group. The Evaluating Patients for Drug-Induced Diseases chapter briefly discusses ADR determination instruments that can assist with ADR evaluations by describing the Naranjo criteria (also known as the Adverse Drug Reaction Probability Scale). There are many other possible ADR determination instruments that could be used, and these are discussed in a review article by TB Agbabiaka et al. Although the Naranjo scale is the most frequently used in clinical practice and has been tested for reliability and validity, its reliability and validity have been questioned in the critically ill population. Other changes to the textbook include dividing the arrhythmia chapter into supraventricular arrhythmias and ventricular arrhythmias. Also, the diarrhea and constipation chapter has been split into 2 chapters. The teratogenicity chapter was removed from the miscellaneous section.

Reviewer's Summary: Overall, the authors and editors clearly achieved the purpose of the textbook, which was to create a compendium of potential drug-induced diseases. This book addresses the important issue of prevention and management of these unintended and undesirable conditions. The authors, editors, and reviewers should be commended for completing such a thorough review of a substantial amount of literature. This textbook will be a useful reference for a variety of readers. A practical application of the information in this textbook would be to create a knowledge base of potentially causal drugs that could be combined with clinical data for the generation of advanced alerts to identify drug-related hazardous conditions using a computerized clinical event monitor as part of an active medication monitoring system.

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Conflict of interest: Author reported none
