
Preface

Drug therapy is the most important therapeutic intervention by any physician. Even surgeons prescribe numerically more drugs than making decisions on individual operations. The number of diagnoses increases with the age of patients, and so does the number of drugs: Men aged 80+ have 3.24, women of the same age have 3.57 diagnoses in average. As a guideline dealing with one of those diagnoses recommends three drugs on average, it is not difficult to understand why elderly patients often receive ten and more drugs. A U.S. study showed that patients aged 65+ consume five and more drugs in over 50 % of cases, and 10 % of elderly patients even used ten and more. This phenomenon of so-called polypharmacy has grave consequences: For the United States alone, it is estimated that each year about 100,000 patients die of serious adverse drug reactions. The potential of drug-drug interactions increases exponentially with the number of drugs; however, this is not the biggest problem of polypharmacy. Not mentioning costs, which in the light of the demographic revolution is a yet-increasing threat to all health care insurance systems, it reflects the generally insufficient quality of treatment in the elderly. This results—among other reasons—from the fact that most drug therapies have never been tested in the elderly; guidelines often simply extrapolate findings from younger to elder patients if the latter patient group is mentioned at all.

The lack of evidence is one of the major sources of suboptimal treatment in the elderly, and no drug has ever been tested in position 8 or 10 of a list of potentially outcome-relevant drugs. In clinical trials, patient selection aims at those without relevant concomitant diseases and thus medications; this almost automatically excludes most elderly patients from studies, and no drug will be tested on a background of more than four or five drugs. Polypharmacy thus results from extrapolations and simple additions of drugs—a process that often leads to a deadly cocktail. As a consequence, we need not only the systematic generation of data on drug efficacy and safety in the elderly but also an answer to the burning question of how to reduce polypharmacy rationally and consistently in the realm of non-evidence-based drug therapies in the elderly.

In this context, the book has two major aims: to compile the available knowledge on gerontopharmacology and to guide physicians to a rationalistic

approach for successful drug therapy in the elderly. This includes the wide application of a novel classification of drugs relating to their *Fitness for the Aged* (FORTA; see chapter “[Critical Extrapolation of Guidelines and Study Results: Risk-Benefit Assessment for Patients with Reduced Life Expectancy and a New Classification of Drugs According to Their Fitness for the Aged](#)”), which not only assesses negative drug aspects such as the Beers’ list, but also adds the emerging positive experiences in important therapeutic situations. It should be mentioned beforehand that the paucity of data and the yet-early days of an international discussion lead to limitations of this classification, which is only meant as proposal and inspirational attempt; in many instances, it still reflects author opinions only. It applies to chronic therapies for which data in the elderly are more prevalent than for those on acute interventions (e.g., in intensive care situations). This explains that, for example, for stroke as one of the most prevalent diseases in the elderly, only risk factors and preventive measures are addressed, but not the acute treatment, which is mainly done by specialists. In situations in which special knowledge and treatment modalities do not exist for the elderly in comparison to younger patients, we refer to standard books and training; thus, it is conceivable that chapters on gastrointestinal diseases or antibiotics are lacking. This book should concentrate on age-specific problems and not become diluted by the repetition of age-independent standard knowledge that can be found in reference works. Ideally, it should be received as a book supplementing those not devoted to the elderly; thus, the book volume could be restricted to less than 350 pages. Referencing is also very limited and by far not complete. Along this line, basic drug data contained in the *Physician’s Desk Reference* or similar national drug listings (e.g., Rote Liste® in Germany) are not repeated unless they are important for age-related issues. Therefore, some chapters appear inadequately small compared to the importance of the clinical entities addressed. This results from the lack of data and reflection thereof in the book, but slim or lacking chapters should also inspire and encourage researchers to generate the data in clinical trials.

An important task for the authors was the thorough reflection of geriatric syndromes directly relating to drug therapy in the elderly, such as dementia, fall risk, and frailty. This includes both the induction of these syndromes by drugs and their treatment by drugs. In addition, more generic aspects of drug therapy in the elderly are addressed, including altered pharmacokinetics or compliance/adherence issues. These topics underlie the disease-oriented chapters (including the “missing” ones), and not notoriously repeated there; for example, it does not need to be reiterated in all chapters that kidney function is essential to the excretion of many drugs. To ease orientation, study acronyms are explained within and at the end some chapters.

The authors hope that this book may positively contribute to one of the most important therapeutic areas of the future: drug therapy in the elderly.

Drug Therapy for the Elderly

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2013, XV, 356 p. 53 illus., 35 illus. in color., Softcover

ISBN: 978-3-7091-0911-3