Mohr, M. Greenblatt, G. Reznik, J. Althoff, F. C. Chesterman, H. Kirkman, R. L. Kempson, A. H. Dodge, L. D. Berman, E. Soto, I. S. Levenbook, O. L. Kolomiyets, M. A. Nikolayeva, P. Straüli, J. Mettler, P. Pour, M. Rustia, H. E. Pogosianz, and O. I. Sokova.

The book was organized, as were the two previous volumes, on an organ approach, giving a description of the individual tumors of each organ based on histological tissue type. Included in each chapter is a discussion of (*a*) normal structure, (*b*) morphology and biology of tumors, (*c*) spontaneous tumors, (*d*) induced tumors, and (*e*) comparative aspects. Included in the normal structure section is a description of the organ's gross anatomy, histological type of tissue, and cell types. The morphology and biology of tumor portion relates the most prevalent types of tumors found in the organ in hamsters based on standard histological classifications of tumors.

The spontaneous tumor section deals with the incidence of a given tumor occurring naturally in various hamster colonies throughout the world. Limited factual records were obviously available to the authors to make their evaluation. The induced-tumor section discusses the ability to induce a specific type of tumor in hamsters with either chemicals, environmental agents, hormones, or radiation. In some cases, the number of successfully induced cancers is included for the reader's perusal.

The portion on comparative aspects relates the probability of a hamster cancer being a good laboratory model in cancer research. Comparisons were made where appropriate, relating similarities of hamster cancers to specific human cancers. Certain hamster tumor models related positively with hormone-, chemical-, or virus-induced cancers in the human.

Each organ chapter contains black and white photographs of examplary tumors from hamsters demonstrating cell types, histology, and morphology points typical to that type of tumor, metastasis, viral inclusions, *etc.* A number of electron micrographs are included. Although expensive, the volume contains no color photographs, which could have enhanced the staining characteristic of the tissue.

The materials in each chapter are well referenced, although the citations are not of recent dates, *i.e.*, 1975–1983. Obviously, attempts were made to collect all available references on a given hamster tumor in this volume. The text is written in a concise, straightforward manner. It is complete and well organized in its treatment of the tumors. This particular volume would not interest most scientists in cancer research, since hamsters are not frequently utilized as tumor-bearing models. Nevertheless, the text is a good reference book and may interest some researchers in the future who wish to develop in hamsters a tumor model that mimics a specific tumor in humans.

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Manual of Laboratory Pharmacokinetics. By STEPHEN H. CURRY and ROBIN WHELPTON. John Wiley and Sons, One Wiley Drive, Somerset, NJ 08863. 1983. 189 pp. 15 × 23 cm. Price $21.95.

In the preface, the authors state that their purpose in this book was to compile "experiments suitable for use in training laboratory workers in biopharmaceutics, drug metabolism, pharmacokinetics, and related topics." A review of this book must then address the relevance of this book to the pharmaceutical sciences and the degree to which it meets a perceived need.

The changing curricula of pharmacy schools, with an increasing emphasis on clinical relevance in contrast to basic science background of fundamentals, is of concern to many in education. Now with the growing need for pharmacokinetic input to dosage adjustment, the adequacy of the analytical chemistry component of the training becomes a concern. Some schools now seek to emphasize biopharmaceutical applications rather than compendial assays, but this trend is hampered by a scarcity of adequate texts and manuals, especially for instructors who are not personally involved in the biopharmaceutical and pharmacokinetic implications of drug and metabolite assay.

The use of this book as a text in an undergraduate sequence requires the cooperation of instructors in analytical chemistry, pharmacokinetics, and pharmacology. Any student who is exposed to the approach utilized here will be a better "relevant" pharmacist for the knowledge and experience obtained. First-year graduate students, not just in pharmaceutics but also in medicinal chemistry, deserve an exposure to this or an equivalent text if they are not already receiving this knowledge through related biopharmaceutic assay courses and appropriate support pharmaceutics and kinetics.

Each chapter of this book provides good theoretical treatment of the subject matter, has one or more laboratory experiments clearly illustrating the methodology but providing data for pharmacokinetic interpretation, and contains a set of references and reading material. Even more valuable, typical data from each experiment are considered in the Appendix to demonstrate how the data should be presented and interpreted.

A listing of the experiments provides a recognition of the diversity of techniques explored and reviewed. These include: (1) construction of tritium quench correction curve by the channels ratio technique, (2) absorption spectrum of potassium dichromate, (3) fluorescence of quinine, (4) thin-layer chromatography separation of mild analgesic anti-inflammatory drugs, (5) radioimmunoassay of digoxin, (6) measurement of pK_a values of sulfadimidine and its N-4 acetylated metabolite (including preparation), (7) relationship between pH and apparent partition coefficient, (8) tablet dissolution, (9) decomposition of indomethacin, (10) storage of nitroglycerin tablets, (11) Fisher–Parsons approach for the study of drug absorption *in vitro*, (12) determination of K and n for warfarin binding to bovine serum albumin, (13) displacement of warfarin from binding sites on serum proteins, (14) metabolism of drugs by enzymes of the liver microsomal fraction, (15) determination of K_m and V_{max} for butyral-cholinesterase using butyralthiocholine as the substrate, (16) excretion of imipramine and its metabolites by rats housed in metabolism cages (including preparation of imipramine N-oxide), (17) influence of urinary pH on salicylate excretion, (18) pharmacokinetics of sulfadimidine and N^4-acetylsulfadimidine, (19) urinary clearance of these two and determination of acetylator status, (20) kinetics of ethanol elimination with simple measurement of drug effect, (21) measurement of sleeping times in mice, use of drug effect to assess drug metabolism, and pretreated animal differences, (22) turn-over of noradrenaline in rat hearts, and (23) pharmacokinetic models and problems.

An interested student could read this book and its model answers to learn a great deal regarding techniques and methodology without actually having any hands-on experience. Many students deserve the opportunity of studying this book for this reason. In addition many of the faculty of our schools would profit from a similar reading of this book to enhance their background in this area of pharmacy practice. It is sincerely hoped that this and similar books will provide the necessary unification of concepts of fundamental basic sciences with animal and human pharmacology and pharmacokinetics.

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