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Book Review

Clinical Pharmacokinetics: Concepts and Applications (2nd edn.)
M. Rowland and T.N. Tozer
Lea and Febiger (U.K.) Ltd.
541 pp.; ISBN 0-8121-1160-5; UK £24.91

Just when one thought that 'pharmacokinetics' as a science was a spent force along comes this excellent book for all involved in the application and teaching of Clinical Pharmacokinetics.

In the preface to the first edition of this book the authors state that its title emphasises "the bedside application of pharmacokinetics – a primer on pharmacokinetics with clinical applications". Eight years on from the first edition, the clinical applications have grown enormously with pharmacokinetic studies being performed during new drug development on patient populations likely to receive the drug and an increase in hospitals of clinical pharmacokinetic services with monitoring of plasma concentrations of drugs as a guide to therapy.

The book is divided into 5 sections: 'Absorption and Disposition Kinetics', 'Therapeutic Regiments', 'Physiologic Concepts and Kinetics', 'Individualization' and 'Selected Topics'. In each section the chapters lead one through the various aspects of pharmacokinetics, i.e. Section 1 'Absorption and Disposition Kinetics' has chapters on Basic Considerations; Intravenous Dose; and Extravascular Dose. Each chapter in the book has a stated set of 'Objectives', identifying the major aspects to be learned and a series of problems for self evaluation. The Objectives set out at the beginning of, e.g. the Intravenous Dose chapter, state that:

'The reader will be able to define,

(1) The meaning of half-life, elimination rate constant, first-order process, volume of distribution, clearance, renal clearance and function excreted unchanged.

(2) Estimate the values of half-life, elimination rate constant, volume of distribution, and clearance from plasma or blood concentrations of a drug following an intravenous dose.

(3) Estimate the values of half-life, elimination rate constant, and function excreted from urinary excretion data following an intravenous dose.

(4) Estimate the value of the renal clearance of a drug from combined plasma and urine data.

(5) Calculate the concentration of drug in the plasma and the amount of drug in the body with time following an intravenous dose, given values for the pharmacokinetic parameters.'

This type of information set out as 'Objectives' is invaluable to all involved. The asterisking of important formulae is also important, as are the Study Problems (and the answers).

The order of Sections 1–3 is interesting in that the authors start by explaining the 'Basics of Kinetics' and then moving on to 'Physiologic Concepts' and its 'Integration with Kinetics'. It could be argued that 'Physiologic Concepts' might come first.

Section 4 on 'Individualization' which includes chapters on Variability, Genetics, Age and Weight, Disease, Interacting Drugs and Monitoring of Plasma Drug Concentrations is most valuable. In the latter chapter, the problems of Target Concentration Strategy, Pertinent Information Needed, Evaluation Procedure and Dosing Scenarios lead to a rational plan of action and to intelligent suggestions on what drugs are worth analysing to influence therapy.

Section 5 'Selected Topics' broadens the interest of the health care professionals, teachers and students. It includes chapters on Distribution Kinetics, Pharmacological Response, etc.

The book concludes with four pages on 'Definition of Symbols' in alphabetical order, e.g. *MRT: Mean time a molecule resides in body, hours*, 'Selected Reading' and an excellent 'Index'.

D.W.G. Harron, B.Sc., PhD., M.P.S.,
Department of Therapeutics and Pharmacology,
The Queen's University of Belfast.