Scintigraphy of Inflammation with Nanometer-Sized Colloidal Tracers
M. Deschrijver, Dordrecht, The Netherlands, Kluwer Academic Publishers, 1989, 212 pp, $69.50

This book is part of a series mainly devoted to new developments in radiopharmaceuticals. The focus of this book is the use of a new radiopharmaceutical, ^{99m}Tc-labeled-nanometer-sized colloid, for detection of inflammation and/or infection in the extremities. It consists of eight chapters; an introduction to the problem of detecting inflammations, a discussion of the pathophysiology of the inflammatory processes, the presently used radiopharmaceuticals and their mechanism (including ^{99m}Tc-HM-PAO-labeled leukocytes and ^{123}I-labeled antigranulocyte antibodies), their use in various disease process, characterization of this colloid, animal model experiments with the colloid, clinical studies, and finally a summary chapter. There is not, however, much in this book to recommend.

It is poorly written and contains not only numerous typographical errors but errors in fact or omission, which seriously impair its usefulness. References are missing or misstated. Tables and figures are referred to incorrectly in the text and are also labeled inconsistently. There are many tables of data that are not referenced or are incorrectly referenced. This leaves the reader to wonder where the data came from and, more important, how they were generated.

The book utilized a camera ready-text. The print quality is acceptable but uneven. Tables and figures are placed at the end of each chapter. Because important information is not included in a number of tables, some of the tables are difficult to interpret without referring to the text. However, this information is sometimes missing even in the text. The scintigrams are mediocre in quality but the quality is much better than that in the original articles.

Although the book is written for nuclear medicine physicians and active investigators in the field, the reader gets the distinct impression that throughout the book the author is proselytizing for this "new" radiopharmaceutical. Perhaps active investigators would find the introductory chapters unnecessary, nuclear medicine physicians, on the other hand, might find these introductory chapters useful. A number of potentially useful radiopharmaceuticals recently have been introduced for the detection of infection/inflammation, e.g., ^{99m}Tc HM-PAO labeled leukocytes. While these introductory chapters contain a smattering of up-to-date information, the author generally relies on old outdated references and, in some instances provides incorrect information. For example, the author incorrectly states that ".... ^{111}In dissociates itself from transferrin more readily than ^{67}Ga...." and references a 1975 article. The only information in this article about ^{111}In, ^{67}Ga, and transferrin is an unreferenced statement: ^{111}In strong binding to transferrin. The chapter containing the data characterizing this nanocolloid should have been published in the open literature to allow more easy access and critical appraisal. In addition, there is only one set of data, which, in itself, does not deserve a full chapter. Similarly, the chapter containing the animal data is reproduced entirely from a single set of previously published data and certainly does not require a full chapter.

The clinical data is rather skimpy. Only four patient series are presented, each comparing the nanocolloid with a different adjunctive agent, e.g., ^{67}Ga-citrate, and two of the four have been published only in abstract form.

The author's conclusion that ^{99m}Tc-labeled nanocolloids can be used to replace either ^{111}In or ^{99m}Tc-labeled white blood cells is wholly overblown given the limited data. This excess could be excused if the preliminary data was overwhelmingly positive. Unfortunately, it is not. The specificity of this nanocolloid in patients with confirmed diagnosis of osteomyelitis or septic arthritis was only slightly higher than ^{67}Ga-citrate.

In summary, for those interested in the use of ^{99m}Tc-labeled-nanometer-sized colloids in the detection of infectious disease processes there are a number of studies in the open literature that should be investigated. Reading this book would not further the understanding of these studies.

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Positron Emission Tomography in Clinical Research and Clinical Diagnosis: Tracer Modelling and Radioreceptors
C. Beckers, A. Goffinet, A. Bol, eds, Dordrecht, The Netherlands, Kluwer Academic Publishers, 1989, 292 pp, $86.50

This book is Volume 15 of the *Developments in Nuclear Medicine* series, published as part of the Medical and Health Research Program of the European Community. It is the proceedings of a workshop held in Brussels, Belgium, on October 20–22, 1988. Roughly half of the book concerns PET studies of brain receptor systems, and the other half deals with PET studies of energy metabolism. It presents many different mathematical models in various approaches to analyze the data acquired in PET experiments. The chapter on identifiability of receptor model parameters gives an innovative practical approach to resolving the problem of two distinct models which both satisfy the initial set of data acquired in a PET study of the muscarinic cholinergic receptor system.

The volume seems to be merely a collection of unedited manuscripts replete with errors (both typographical and substantive contextual). In many instances, the omission of characters not on the standard typewriter keyboard (such as the greek letters for alpha and beta) confuses and frustrates the reader. Typical of the inadequate editorial treatment of the text is an untitled table placed after the list of references on page 34, without the appropriate greek symbols to distinguish alpha-adrenergic from beta-adrenergic. The formatting of references is inconsistent from chapter to chapter. Coverage of the various brain

neurotransmitter systems places undue emphasis on noradrenergic systems (two chapters). As yet, no PET radioligand has been developed for these systems.

Another example of poor editing is the black-and-white rendition on page 21 of what was apparently a color PET image. Besides presenting questionable results, this figure satisfies most of the criteria for poor illustration techniques. There is no scale and hence no means to estimate meaningful quantitative values. There is no indication of orientation of the (presumably head) PET scans.

This volume would be of some interest to some researchers involved in PET studies, but is hardly worth the list price.

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Books Received

NCRP Report No. 105: Radiation Protection for Medical and Allied Health Personnel. *National Council on Radiation Protection and Measurements, 1988, 129 pp, $15.00*

Effects of Prenatal Irradiation, Second Edition. *F.E. Stieve, R.M. LeMar (translation), New York, Fischer Verlag, 1989; 378 pp, $63.50*

15 30

Selected manuscripts from the issues of the Journal of Nuclear Medicine published 15 and 30 years ago.
Edited by F.F. Mand

APRIL 1960

A Selection of Abstract Topics Presented at the First Annual Meeting of the Society of Nuclear Medicine—Southeastern Chapter, Oak Ridge, Tennessee March 18-19, 1960

No. 2. The Use of Calcium-47 in Diagnostic Studies of Patients with Bone Lesions. K. Corey, P. Kenney, E. Greenberg, A Pazianos, O.H. Pearson, J.S. Laughlin.

Calcium-47 was produced by neutron bombardment of ^{46}Ca-enriched CaCOs. It emits high rays and has a half-life of 4.5 days. Kinetic studies with simultaneous external counting have demonstrated varied amounts of deposition of the isotope in diseased areas of bone, presumingly indicating different rates of activity.

No. 5. "Radioisotopic Cows." W.D. Tucker.

Methods are being developed for producing radioisotopes which would be useful, if they were available, or available in a suitable and convenient form. The present "herd" includes ^{90}Sr/^{90}Y, ^{132}Te/^{132}I, and ^{99}Mo/^{99m}Tc units.

No. 8. A Study of Radioactive Iodinated Amino Acids in Thyroid Nodules and in Normal Thyroid Tissue. H.C. Allen Jr. and J.A. Chamberlin.

A total of 96 patients with various types of thyroid diseases have been screened over the past 1.5 yr. A detailed study of 20 of these patients, in which the radioiodinated protein composition of nodular and perinodular thyroid tissue has been compared, is provided.

No. 10. Internal Dose in Humans from Orally Ingested Radionuclides. R.L. Hayes.

Measurements in live animals of the dose received by the intestinal mucosa as the result of the oral ingestion of ^{90}Y have raised questions as to the validity of assuming average behavior in calculating maximum permissible concentrations for various radioisotopes.

No. 18. Clinical Uses of Radioisotopes in the Diagnosis and Management of Hydrocephalus. R.E. Parks, A.J. Gilson, D.H. Reynolds.

Radioactive isotopes are being used to diagnose and place the site of obstruction in hydrocephalus. Tracer doses of ^{131}I-labeled human serum albumin are injected into the ventricle followed by scanning procedures over the skull and spine.

No. 20. Comparison of the Y-12 and Yugoslavian Radiation Accidents. G.A. Andrews.

The Y-2 accident in June 1958 was followed by a somewhat similar one in Yugoslavia in October, 1958. The Y-12 accident was unusual in that rather accurate radiation dose estimates could be made, and the published figures have been widely accepted as compatible with the biologic effects. In the Yugoslavian accident, conditions were such that there were great uncertainities in estimating dose.

No. 21. A Total-Body Irradiation Facility. M. Brucer.

A total-body irradiation facility has been prepared that will allow exposure of anything within the dimensions of 2×2×6 in a uniform field of radiation. The source consists of 4,000 curies of cesium in eight matched sources arranged behind beam-shaping devices that produce a uniform irradiation exposure field. ■