



1983
YEAR BOOK OF
MEDICINE®

ROGERS / DES PREZ / CLINE
BRAUNWALD / GREENBERGER
BONDY / EPSTEIN
MALAWISTA



1983
YEAR BOOK OF
MEDICINE®



The YEAR BOOK of

Medicine[®]

1983

Edited by

DAVID E. ROGERS, M.D.

ROGER M. DES PREZ, M.D.

MARTIN J. CLINE, M.D.

EUGENE BRAUNWALD, M.D.

NORTON J. GREENBERGER, M.D.

PHILIP K. BONDY, M.D.

FRANKLIN H. EPSTEIN, M.D.

STEPHEN E. MALAWISTA, M.D.

YEAR BOOK MEDICAL PUBLISHERS, INC.

CHICAGO • LONDON

Copyright © June 1983 by YEAR BOOK MEDICAL PUBLISHERS, INC.

All rights reserved. No part of this publication may be reproduced, stored in a retrieval system, or transmitted, in any form or by any means, electronic, mechanical, photocopying, recording, or otherwise, without prior written permission from the publishers.

Printed in U.S.A.

Library of Congress Catalog Card Number: CD38-25

International Standard Book Number: 0-8151-7313-X

Table of Contents

The material covered in this volume represents literature reviewed up to August 1982.

JOURNALS REPRESENTED	9
Infections , edited by DAVID E. ROGERS, M.D., <i>President, The Robert Wood Johnson Foundation, Princeton, N.J.; Adjunct Professor of Medicine, Cornell University Medical College; Clinical Professor of Medicine, University of Medicine and Dentistry of New Jersey-Rutgers</i>	11
INTRODUCTION	13
1. NEWLY APPRECIATED INFECTIONS	15
2. INFECTIONS IN THE COMPROMISED HOST	21
3. ENTERIC INFECTIONS	29
4. URINARY TRACT INFECTIONS.	37
5. VIRAL INFECTIONS	41
6. MENINGITIS	47
7. PROPHYLAXIS AND PREVENTION	53
8. THERAPY FOR INFECTIONS	59
9. MISCELLANEOUS	69
The Chest , edited by ROGER M. DES PREZ, M.D., <i>Professor of Medicine, Vanderbilt University School of Medicine; Chief of Medical Services, Veterans Administration Hospital, Nashville</i>	83
10. BASIC STUDIES	85
11. PULMONARY VASCULAR DISEASES INCLUDING PULMONARY EMBOLISM	91
12. ASTHMA.	105
13. CHRONIC OBSTRUCTIVE PULMONARY DISEASE	115
14. ACUTE RESPIRATORY FAILURE	135
15. RESPIRATORY THERAPY	139
16. INTERSTITIAL LUNG DISEASE.	151
17. LUNG CANCER	163
18. TUBERCULOSIS	183
19. OTHER INFECTIONS	195
20. MISCELLANEOUS	205

The Blood and Blood-Forming Organs, edited by MARTIN J. CLINE, M.D., *The Bowyer Professor of Medical Oncology; Department of Medicine,*

	<i>University of California School of Medicine, Los Angeles, California</i>	217
21.	WHITE CELLS, RED CELLS, AND HEMATOPOIESIS	219
22.	PLATELETS AND HEMOSTASIS	239
23.	MALIGNANT HEMATOLOGIC DISEASES	249
24.	MISCELLANEOUS HEMATOLOGY	261
25.	ONCOLOGY	267

The Heart and Blood Vessels, edited by EUGENE BRAUNWALD, M.D.,
*Hersey Professor of Theory and Practice
of Physic, Herrman Ludwig Blumgart Professor
of Medicine, Harvard Medical School; Chairman,
Department of Medicine, Brigham and Women's
and Beth Israel Hospitals, Boston.*

		283
26.	ARRHYTHMIAS	285
27.	HEART FAILURE	295
28.	VALVULAR HEART DISEASE	303
29.	ISCHEMIC HEART DISEASE	309
	Coronary Atherosclerosis.	309
	Coronary Spasm.	312
	Myocardial Ischemia.	318
	Acute Myocardial Infarction	322
	Exercise in Acute Myocardial Disease.	325
	Chronic Ischemic Heart Disease	333
30.	HYPERTENSION	349
31.	OTHER TOPICS	355

The Digestive System, edited by NORTON J. GREENBERGER, M.D.,
*Peter T. Bohan Professor and Chairman, Department
of Internal Medicine, University of Kansas Medical
Center, College of Health Sciences and Hospital*

		367
32.	ESOPHAGUS	369
33.	STOMACH AND DUODENUM	379
34.	SMALL BOWEL	393
35.	COLON	403
36.	LIVER.	411
37.	GALLBLADDER AND BILIARY TRACT	451
38.	PANCREAS.	463

Metabolism, edited by PHILIP K. BONDY, M.D., Professor
*of Medicine, Yale University School of Medicine;
Associate Chief of Staff for Research, West Haven
Veterans Administration Medical Center.*

		475
	INTRODUCTION	477
39.	THE HYPOTHALAMIC-PITUITARY SYSTEM	479
40.	THE ADRENAL CORTEX	493
41.	THYROID GLAND	499

42. THE GONADS	511
43. HIRSUTISM	517
44. ECTOPIC HORMONES	525
Introduction.	525
45. INBORN ERRORS OF METABOLISM	535
46. CARBOHYDRATE METABOLISM	537
Introduction.	537

Kidney, Water, and Electrolytes, edited by FRANKLIN

H. EPSTEIN, M.D., *William Applebaum Professor
of Medicine, Harvard Medical School; Director,
Renal Unit, Beth Israel Hospital, Boston*

47. GLOMERULAR DISEASE	557
48. OTHER DISEASES OF THE KIDNEY.	563
49. TOXIC NEPHROPATHY.	569
50. ACUTE RENAL FAILURE	575
51. CHRONIC RENAL FAILURE AND UREMIA	577
52. HYPERTENSION	583
53. TRANSPLANTATION	589
54. DIALYSIS	595
55. SODIUM, POTASSIUM, AND WATER	605
56. CALCIUM, MAGNESIUM, PARATHYROIDS, AND BONE	613

Rheumatology, edited by STEPHEN E. MALAWISTA, M.D.;

*Professor of Medicine, Chief, Section of Rheumatology,
Department of Internal Medicine, Yale University
School of Medicine.*

57. RHEUMATOID ARTHRITIS	621
58. SYSTEMIC LUPUS ERYTHEMATOSUS	633
59. SCLEROSING SYNDROMES	641
60. VASCULITIS	649
61. CRYSTAL-ASSOCIATED ARTHRITIS.	653
62. INFECTIOUS ARTHRITIS	657
63. OTHER TOPICS.	663

Journals Represented

Acta Chirurgica Scandinavica
Acta Endocrinologica
Acta Medica Scandinavica
American Heart Journal
American Journal of Cardiology
American Journal of Epidemiology
American Journal of the Medical Sciences
American Journal of Medicine
American Journal of Nephrology
American Journal of Otolaryngology
American Journal of Roentgenology
American Journal of Surgery
American Review of Respiratory Disease
Annals of Internal Medicine
Annals of Thoracic Surgery
Antimicrobial Agents and Chemotherapy
Archives of Internal Medicine
Archives of Oto-Rhino-Laryngology
Archives of Surgery
Arthritis and Rheumatism
Australian and New Zealand Journal of Medicine
Blood
British Journal of Haematology
British Medical Journal
Canadian Medical Association Journal
Cancer
Cancer Research
Cancer Treatment Reports
Catheterization and Cardiovascular Diagnosis
Chest
Circulation
Clinical Endocrinology
Diabetes
Digestion
Digestive Diseases and Sciences
European Journal of Clinical Pharmacology
European Journal of Respiratory Diseases
Fertility and Sterility
Gastroenterology
Gut
Hepatology
Infection Control
International Journal of Gynaecology and Obstetrics
Johns Hopkins Medical Journal
Journal of the American Medical Association
Journal of Applied Physiology: Respiratory, Environmental, and Exercise
Physiology

10 / JOURNALS REPRESENTED

Journal of Bone and Joint Surgery (American vol.)
Journal of Clinical Endocrinology and Metabolism
Journal of Clinical Gastroenterology
Journal of Clinical Investigation
Journal of Clinical Pathology
Journal of Experimental Medicine
Journal of Family Practice
Journal of Hand Surgery
Journal of Immunology
Journal of Infectious Diseases
Journal of Nuclear Medicine
Journal of Occupational Medicine
Journal of Pediatrics
Journal of Surgical Research
Journal of Thoracic and Cardiovascular Surgery
Kidney International
Klinische Wochenschrift
Lancet
Lung
Mayo Clinic Proceedings
Medical Journal of Australia
Medical Letter on Drugs and Therapeutics
Medicine
Nature
Nephron
New England Journal of Medicine
Otolaryngology—Head and Neck Surgery
Postgraduate Medicine
Proceedings of the National Academy of Sciences
Radiology
Science
South African Medical Journal
Surgery
Thorax
Transplantation
Yale Journal of Biology and Medicine

PART ONE
INFECTIONS

DAVID E. ROGERS, M.D.

Introduction

Each year I look toward putting the infectious disease section of the YEAR BOOK to bed with absolute and unequivocal joy. It gives me a trip back to Nashville and to Vanderbilt—an institution I love unashamedly. It permits me to spend some time with my younger colleagues still vibrantly involved in patient care and research. It makes me (at least for several months) a retooled “expert” in a fascinating and ever changing branch of internal medicine. I like anticipating the trip and I always feel ambivalent as we wind up our work. I like viewing the product, but I hate to see the process end.

This year the team has changed. Dr. Zell McGee has gone westward as Professor of Medicine and Chief of the Division of Infectious Disease at the University of Utah School of Medicine. We miss him. Dr. William Schaffner has become Professor and Chairman of the Department of Preventive Medicine as well as Professor of Medicine and, needing yet more work, has assumed responsibilities for the Division of Infectious Disease at Vanderbilt as its Chief as well. To my delight he has agreed to continue to work with me on this section as the chief arbiter of what goes into it. To aid him in this task, and recognizing that I learn more quickly when double-teamed, this year Dr. Allen Kaiser, Associate Professor of Medicine at Vanderbilt and Chief of Medicine at St. Thomas Hospital, has joined our ranks. Allen was a Vanderbilt product, who received his training in infectious disease within the George Hunter Laboratory under the late Dr. M. Glenn Koenig (my successor) and later with Drs. McGee and Schaffner. So I am now working with the third generation of talented young people spawned by this laboratory and this institution. The tradition continues. That's part of what medicine is all about, and needless to say, I enjoy it.

DAVID E. ROGERS, M.D.

1. Newly Appreciated Infections

► It is ominous. None of the newly recognized infections of the past decade—not Legionnaires' disease, not the toxic-shock syndrome—has the downright frightening connotations of what has been designated the acquired immune deficiency syndrome (AIDS). Some unknown infectious agent or other factor seemingly induces profound depression of cellular immunity in certain groups of people. In this vulnerable state, the individuals have a variety of infections caused by that spectrum of pathogens which we usually associate with renal transplant recipients, patients undergoing cancer chemotherapy, and the like. These include infection with *Pneumocystis carinii*, herpes virus, cytomegalovirus, *Mycobacterium tuberculosis* and other mycobacterial species, *Cryptococcus*, *Candida*, and others. In addition, the rare cancer, Kaposi's sarcoma, in an unusually aggressive form, also has been a feature of AIDS in some groups. The following is one of a number of articles which have appeared on this subject. ◀

1-1 ***Pneumocystis carinii* Pneumonia and Mucosal Candidiasis in Previously Healthy Homosexual Men: Evidence of a New Acquired Cellular Immunodeficiency.** Michael S. Gottlieb, Robert Schroff, Howard M. Schanker, Joel D. Weisman, Peng Thim Fan, Robert A. Wolf, and Andrew Saxon (Los Angeles) encountered 4 previously healthy homosexual men who contracted *Pneumocystis carinii* pneumonia, extensive mucosal candidiasis, and multiple viral infections. In 3 cases the infections followed prolonged fever of unknown origin. Cytomegalovirus was recovered from secretions in all 4 cases. One patient manifested Kaposi's sarcoma 8 months after presenting with esophageal candidiasis. One of the other patients died with extensive *P. carinii* and culture-proved cytomegalovirus pneumonia.

All 4 patients were anergic and markedly lymphopenic. They had no proliferative lymphocyte responses to soluble antigens, and their responses to phytohemagglutinin were greatly reduced. Monoclonal antibody analysis of the peripheral blood T cells showed virtual elimination of the Leu-3+ helper-inducer subset, an increased proportion of the Leu-2+ suppressor-cytotoxic subset, and an increase in cells bearing the thymocyte-associated antigen T10. The T-helper-to-suppressor—cytotoxic ratio was inverted, suggesting that cytomegalovirus infection had an important role in the development of immunodeficiency in these cases. The ratio of Leu-3+ to Leu-2+ cells was greatly depressed in all patients relative to the normal control ratio of 1.6.

The clinical course of these patients resembled that of primary cytomegalovirus infection in immunosuppressed renal transplant recipients. A sexually transmitted infectious agent or exposure to a common environment presumably is important in the pathogenesis of the immunodeficient state in these homosexual men. There has been no indication of the spontaneous recovery of cellular immunocompet-

ence; all surviving patients have continued to have a severe wasting syndrome. Pneumocystis pneumonia recurred in 2 of the 3 patients not given trimethoprim-sulfamethoxazole prophylaxis, indicating that long-term prophylaxis should be started after the first episode of pneumocystis in these patients.

► [Information about AIDS is developing so rapidly that journal articles and annuals such as this have trouble keeping up. The main vehicle for the almost-weekly medical news bulletins is the publication of the Centers for Disease Control: *Morbidity and Mortality Weekly Report*. In recent weeks the *MMWR* has carried reports defining risk groups.

As things now stand (and the picture is changing almost weekly), the major risk groups for AIDS include gay men, intravenous drug users, Haitians living in the United States, hemophiliacs, and some children born of prostitutes and intravenous drug users. Despite treatment of the infections as they occur, the underlying immune defect remains and the death rate is about 60% within 2 years.

So far there are many more questions than answers; most investigations are trying to identify a blood-borne viral infection which can "turn off" cellular immunity. I wish them luck!

There seem to be major urban centers in which this disease is concentrated, New York, Los Angeles, San Francisco, Dallas, Miami, among others. To date, my Tennessee colleagues have seen only 2 cases—both were imported from big cities.] ◀

► ↓ I often have commented in these pages that new infectious diseases have a way of cropping up with regularity. I suppose that is part of the fun of this medical specialty, but it is also a challenge—I have to run hard just to stay in place. Toxic shock syndrome was last year's new disease. My practicing colleagues quickly became adept at recognizing severe cases with multisystem involvement, fever, and a sunburn-like rash. And, pretty soon, houseofficers were making the diagnosis of mild cases in the emergency room. Now, a new wrinkle. Keep running! ◀

1-2 **Toxic Shock Syndrome Associated With Surgical Wound Infections.** Toxic shock syndrome (TSS) in menstruating women has become a well-recognized clinical entity. Paul Bartlett, Arthur L. Reingold, Donald R. Graham, Bruce B. Dan, Daniel S. Selinger, Gerhard W. Tank, and Keith A. Wichterman report the clinical and epidemiologic findings in 13 cases of TSS associated with surgical wound infections reported to the Centers for Disease Control (CDC) between January 1, 1980, and July 31, 1981. Three cases that followed cesarean section were excluded because the evidence indicated that the vagina, rather than the surgical wound, was the site of infection.

The 13 cases were reported by nine states and represented slightly less than 1% of all cases reported to the CDC during the 1½-year period. The intervals between operation and onset of TSS ranged from 1 to 65 days (median, 2) (table). Eleven of the 13 cases met all the criteria of the current CDC case definition for TSS; the other 2 were missing the single criterion of documented hypotension and were considered to be probable cases. Signs, symptoms, and laboratory findings were similar to those reported in cases of TSS associated with menstruation. The earliest signs were fever, diarrhea, and vomiting. Although local signs of a surgical wound infection were minimal, *Staphylococcus aureus* was recovered from wound cultures in 12 of 12 patients and multiple blood cultures were sterile in 11 of 11. Vaginal infection with *S. aureus* was not excluded in only 1 of 3 women who