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Carcinogenesis: A Broad Critique. A collection of papers presented at the Twentieth Annual Symposium on Fundamental Cancer Research, 1966. The University of Texas M.D. Anderson Hospital and Tumor Institute, Houston, Texas, Baltimore, The Williams and Wilkins Company, 1967. 774 p., price: \$ 16.00.

Current efforts in biological and biochemical research on carcinogenesis in animals and man are covered in five general sections: The etiology of lymphomas and leukemias; carcinogenesis in mammary tissues; carcinogenesis in the liver; dedifferentiation and transformation of cultured animal cells to neoplastic states; and the general status of chemical and physical agents in carcinogenesis. Although the scope of this symposium was not as broad as the title implies, e. g. an absence of epi-demiological data, uniformly good coverage was given in more than 30 papers and by the discussants on fundamental aspects of carcinogenesis.

This series of reports will provide the reader with an excellent review of recently accumulated data and current concepts relating to viral, chemical, and physical factors involved in carcinogenesis. Several particularly interesting chapters deal with cell transformation and dedifferentiation. Stimulating chapters on the genetic, immunoproliferative, and immunological aspects of cancer are also included.

Reports of original work and discussions of the current status of active research in carcinogenesis by many of the recognized and respected leaders in the field should make this volume a welcome addition to the cancer researcher's library. It is to be regretted that many of the non-American laboratories active in studies on carcinogenesis were not well represented.

D. P. Griswold, Jr., Birmingham, Ala.

DeWys, William, D.: Cancer of the Gastrointestinal Tract. Year Book Medical Publishers, Chicago 1967. 300 p., price: \$ 12.50. This book is a collection of papers presented at the Tenth Annual Clinical Conference on Cancer, 1965, at the University of Texas, M. D. Anderson Hospital and Tumor Institute. The title of this book may suggest to some a comprehensive treatise on cancer of the gastrointestinal tract. What one finds instead is a collection of papers ranging in scope from physiology of the esophagogastric junction and the anatomy of the liver through evaluations of diagnostic and therapeutic approaches to cancer in several anatomic areas of the gastrointestinal tract. Also included are sections on epidemiology of gastric carcinoma and multiple primaries.

The chapter on liver anatomy is a good review of this subject and presents evidence that metastatic tumors of the liver received a decreased rather than an increased blood supply. Diagnostic studies presented in several chapters include photoscanning, duodenal drainage, esophageal motility studies, cinegastroscopy, selective arteriography, and the usual barium contrast studies. Surgical therapy for cancer at each level of the gastrointestinal tract is discussed and detailed descriptions of partial hepatectomy and colonic resection are presented. Results of radiation therapy presented range from no substantial effect in pancreatic carcinoma to an inadequate (by the author's own admission) trial of preoperative radiation for

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carcinoma of the rectum. The chemotherapy studies while offering a glimmer of hope suffer from being inadequately controlled. For example, therapy of metastatic carcinoma in liver is compared with 'the 2.1 month survival expected without treatment' but no documentation of this figure is presented.

The chapter on functioning carcinoid tumors is an excellent review of diagnostic and therapeutic aspects of this tumor. The presentation of the Zollinger-Ellison syndrome does not clearly separate this syndrome from the syndrome of multiple endocrine adenomatosis. These two syndromes while having a similar mechanism differ in inheritance, etiology and pathology. The chapter on epidemiology of gastric cancer points out the necessity of accurate anatomical diagnosis in epidemiologic studies. United States Census Bureau data are presented which show a decline in death rates (death certificate data) from gastric cancer accompanied by an increase in death rates from cancer of the esophagus, pancreas, and intestines. Before the epidemiologist can speculate about etiologic significance he must consider how changing degrees of accuracy of diagnosis are affecting his statistics.

Although not to be interpreted as a serious criticism the several panel discussions suffer from a tendency to become anecdotal.

This book will be of interest mainly as an additional reference for the abdominal surgeon and the clinical oncologist.

A. Goldin, Bethesda, Md.

Lorian, V.: *Antibiotics and Chemotherapeutic Agents in Clinical and Laboratory Practice* (C. Thomas, Springfield 1966). 337 p., price: \$ 15.50.

In a condensed form and clearly presented, the author has created with this book a sort of vademecum on antibiotics which can be used as a practical guide for bedside therapy as well as for chemotherapeutic laboratory work. As a logical deduction, clinical data and indications are closely correlated with bacteriological and clinical data and indications are closely correlated with bacteriological and clinical-pharmacological findings, making the book an intermediary between the clinic and the laboratory.

This is evidently the intention of the author who says in the foreword: 'I have found it impossible to separate the clinical and the laboratory aspects. The fact is they are one.' The structure of the book and the presentation of the various chapters (Choice of an antibiotic; Bacterial resistance; Antibiotics and chemotherapeutic agents in specific areas of medicine; Laboratory methods and descriptions on antibiotic and chemotherapeutic agents) reveal that the author's activities are not only confined to the clinical field but also to laboratory work. With this bivalent conception the volume should fill a gap between the mainly clinical-empiric and the exclusively laboratory-oriented publications in the field of antibiotics.

All the more regrettable are some discrepancies and mistakes which are not so much detrimental to the principles as to the practical value of the book; in the tables on liquor passage and blood levels which can be reached therapeutically (chapter 1), the most important new substances from the series of the semisynthetic penicillins as well as the cephaloridine are missing. Furthermore, the tables on the percentage of the bacterial sensitivity (pp. 5-7) seem to be out-of-date as neither the penicillinase-resistant staphylococcal penicillins nor ampicillin were considered.

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sequently, some of the therapeutic measures which are recommended in chapter 3 are not based on the latest knowledge in this field: the treatment of whooping-cough with streptomycin (p. 41),

the therapy of meningococcal meningitis by intra-theal administration of penicillin and a combined application of penicillin plus sulphonamides, the combined treatment of enterococcal meningitis with penicillin-G plus streptomycin or colistin (!) and the therapy of endocarditis induced by gram-negative bacteria with streptomycin plus chloramphenicol or tetracycline (p. 48) are definitely outdated and should no longer be included in a book published in 1966. In the systematic review of the various antibiotics given in chapter 4, where the new penicillins and the cephalosporine-antibiotics are at least shortly mentioned, there are also indications which need correcting: a contradiction exists in the blood level values after administration of 1 g of cephalothin which, with only 0.5 to 1 $\mu\text{g/ml}$ as indicated on p. 13, are much too low compared to 0.5 to 40 $\mu\text{g/ml}$ as stated on p. 150. In addition, it seems hardly possible that no toxic side effects were noticed after administration of colistin (p. 163); surely, at least the nephrotoxicity of the polymyxin should be mentioned, such as it is confirmed for the polymyxin-B (p. 267). As the formula given on p. 242 for ampicillin is correct for cloxacillin, but not for ampicillin, there are plenty of reasons for a critical revision and for adjustments which would be well worthwhile. The informative value of this book, which is certainly interesting in its conception, would thereby gain considerably.

P. Naumann, Hamburg

Collection de Médecine Légale et de Toxicologies Médicale – Les Hépatites Toxiques.

Masson, Paris 1967. 112 p., 11 tab., prix: F. 25.-.

This small booklet with 112 pages contains the proceedings of the 7th Meeting of the French Poison Control Centers, held in Paris on June 17, 1966. At the beginning of the volume the works presented at the previous meetings are listed, together with details of the publication of their proceedings.

The various reports examine the importance of certain problems involved in the pathogenesis and therapy of toxic hepatitis. According to Rueff and Frejaville, the treatment of severe acute toxic hepatitis is far from satisfactory; details of treatment are given including cross circulation and perfusion of healthy livers. Histochemical as well as biochemical studies have been carried out by Corcos et al. and Fotjrnier to understand better hepatocellular pathology in experimentally induced toxic hepatitis. Gervais has summarized the most recent findings concerning the biotransformation of foreign compounds by liver cells.

A synopsis of toxic hepatitis is provided by Sicot. The hepatotoxicity of therapeutic agents is considered by Berthelot. Mikaeloff et al. relate their experiences of the methods used for the detoxification of blood in severe toxic hepatic damage. The technique described by these authors deals mainly with cross circulation: an interesting personal observation is described in detail. Liver damage provoked by the ingestion of mushrooms (*Amanita Phalloides*) is one of the leading causes of death by exogenous toxic hepatitis in Europe. Cau et al. and Coudrec et al., by studying the chemical and biological evolution and the histopathologic picture respectively, have investigated this typical form of toxic hepatitis from a standpoint of its treatment with enzymic inhibitors of proteolysis.

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The presentation of the various reports is not sophisticated in that they appear mainly of importance to the practitioner. However, the particular problems covered in some of these articles may also be of interest to the specialist in liver pathology.

Paolo Preziosi, Naples

Frontiers of Radiation Therapy and Oncology Vol. 1. Hyperbaric Oxygen and Radiation Therapy of Cancer. Proceedings of the First Annual San Francisco Cancer Symposium. Ed. by J. M. Vaeth. S. Karger, Basel/New York. XII+198 p., 68 fig., 32 tab., 1968, price: sFr./DM 48.-; US \$ 11.50.

This volume contains the papers presented at the First Annual San Francisco Cancer Symposium on November 12 and 13, 1965.

The opening paper by Dr. I. Churchill-Davidson reviews the history of the use of oxygen in radiotherapy and clearly describes the observations which provide the basis for current radiotherapy combined with hyperbaric oxygen. Then sensitivity of living cells to ionizing radiation is directly related to oxygen concentration which, in turn, is dependent upon tissue blood supply. Most normal tissue is sufficiently oxygenated to the degree that any further increase in oxygen supply does not appreciably increase its radiosensitivity. Varying proportions of the cells in neoplastic tissue are anoxic. By increasing the oxygen concentration in blood, anoxia can be reduced with a concomitant increase in the radiosensitivity of malignant tissue. Specifically, hyperbaric oxygen defines oxygen at a pressure of three atmospheres (absolute) which the patient respire during treatment with ionizing radiation.

Other reports present research treating such questions as low diffusion, blood supply and oxygen concentration affecting tumor oxygenation, the use of preirradiation to decrease the proportion of anoxic cells, the effect of anoxia on radiation injury, and techniques of measuring the degree of oxygenation of tumors. Two papers describe the physiological evaluation and management of patients subjected to hyperbaric radiation therapy. Dr. Wootton presents a paper of considerable practical significance with respect both to patient comfort and optimum utilization of treatment facilities. He discusses the estimation of the minimum time required for malignant tissues to become adequately oxygenated.

Several authors discuss the physical characteristics of and technical problems associated with the use of hyperbaric oxygen tanks. It is concluded that fire is not a significant hazard provided that certain precautions are consistently incorporated into the treatment routine. Techniques of positioning the patient, aligning the radiation source and adjusting for exposure through the chamber walls are adequately discussed. The upper limit of radiation dosage at elevated oxygen pressures can be ascertained by the severity of skin reactions.

Four papers evaluate clinical experience with hyperbaric radiation therapy at specific treatment facilities. It is encouraging to note that the four investigators present similar results. The greater effectiveness of hyperbaric-oxygen radiotherapy in relation to conventional radiotherapy for the treatment of certain tumors is clearly established, but the comparison must include type of malignancy, degree of advancement and anatomical location.

It is unfortunate, however, that a book which within its covers offers 'food-for-thought' and definitive information for the clinician as well as the medical engineer

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fails to consider the mechanism by which oxygen enhances the sensitivity of living cells to ionizing radiation. Perhaps a review of the chemistry of irradiated aqueous solutions might provide a clue. If this question had been raised, even by one contributor, the book might have been considered complete. Minor technical criticisms include one graph with unlabeled abscissa, graphs with difficult-to-interpret scales, equations with poorly positioned symbols and one printed line, at the bottom of one page, which should have appeared in the middle of the paragraph on the following page.

The closing remarks by Dr. Franz Busche are worthy of careful consideration. He urges that the results of hyperbaric-oxygen radiotherapy should be placed in proper perspective to other forms of treatment and warns against regarding its successes as a curative panacea.

This slim volume would be a worthwhile addition to the library of anyone engaged in or interested in hyperbaric-oxygen radiation therapy.

Harris H. Lloyd

Leighton, J.: *The Spread of Cancer. Pathogenesis, Experimental Methods, Interpretations.* Academic Press, New York and London 1967, 208 p., price: 60 s.

As the author stresses in the preface, this book has been written for students of biology and of disease, whether they are in college, medical school, or in graduate training. The chapters on the appearance of cancer, its natural history, invasive and destructive growth, regional extension, and metastasis will be of considerable value to the prospective reader. The reviewer, however, is disturbed by the contents of chapter VII in which the author gives a 'Do it yourself-lesson on the phenomena of invasion and metastasis of inoculated heterologous tumours ('An adequate egg incubator is sold by Sears, Roebuck and Co., Cat. No. 32F700L'). Surely, it cannot be the author's intention to acquaint students, of which term they may be, with these methods of cancer research. Would that not give rise to the fear that within a few years the inoculation of tumours might possibly become a sort of hobby?

H. Schönfeld, Grenzach

