reflected by the breadth of his discussion, not only of virologic factors, but also of host factors in viral oncogenesis. He covers the viral-induced animal neoplasia very well, understandably emphasizing the work done in his own laboratories in which species barriers to infection with Rous sarcoma virus were broken down. While he tends to belabor the discussion of the adherence of oncogenic viruses to erythrocytes, as first reported from his laboratory, he acknowledges that the finding is preliminary and requires further investigation. On every subject, Dr. Zilber projects into the future, pointing out that only by dint of further work will the problem of the role of viruses in carcinogenesis or cocarcinogenesis be resolved. One regrets the untimely death of this colleague whose enthusiasm undoubtedly influenced the growth of viral oncology.

The major criticism of this section of the book is that it leaves one wishing for a more critical attitude in reporting the search for viruses in human cancer. Some of the work reported has not been confirmed in the ensuing years and is no longer accepted as evidence of the passage of human tumor virus to other species. An example of this is the report that Burkitt's lymphoma was transferable to primates.

The section concerned with the immunology of tumors is presented by Abelev. Abelev establishes the evidence for "tumor antigens" in carcinogen-induced tumors of inbred mice and discusses the importance of genetic concepts in this area. He emphasizes the methodology necessary to understanding tumor immunity. It is no longer especially noteworthy that mice can be immunized to their own tumors, but the elucidation, with proper methodology, of the physiologic pathways by which this fact is accomplished is most important.

Two methods used extensively in the author's laboratory are "anaphylaxis and desensitization" and immunodiffusion. While obviously thoroughly aware of the importance of isoantigenic differences in experimental animals, the equal importance of this factor in experiments involving humans is minimized. For example, in an anaphylaxis and desensitization experiment in which the leukemic spleen from Patient No. 1 is used to immunize a guinea pig and is followed by desensitization with the normal spleen from Patient No. 2, the animal responds anaphylactically to the leukemic spleen from Patient No. 3. The logical interpretation of this experiment is that Patients 1 and 3 have an antigen in common that Patient No. 2 does not have. This could be an isoantigen instead of a tumor antigen, a fact the author apparently does not accept since he says that this criticism does not invalidate the fact that "...tumors and the corresponding normal tissues are antigenically different, and ...tumors contain antigens which are not present in normal tissue." The discussion of immunodiffusion, as applied in the author's laboratory, is worthwhile and is particularly recommended to investigators using this technic for similar problems.

Although much of the literature in tumor immunology is covered, there are serious omissions, e.g., the work of Peter Alexander. Emphasis is sometimes given to work that is judged somewhat less than meaningful by international experts in this field. At the same time, criticism levied against some early (1951) tumor immunity work done in inbred mice (on the basis of the tumor's being many generations past its origin when used to immunize) ignored the fact, stated in the paper, that antigen derived from tumor tissue from early generations also produced the effect. No mention was made of the fact that similar results were obtained using a newly induced tumor. Inasmuch as Abelev's major technic, the anaphylaxis with desensitization, is based on the development of hypersensitivity to a tumor antigen, it is surprising that the use of a similar, more sensitive in vitro anaphylactic technic, as well as the demonstration of lysis of immune cells in the presence of complement and a partially purified tumor fraction (both of which have been published), are not discussed.

The major value of the book is that it brings together, under one cover, the important work of Russian scientists in the fields of viral oncology and tumor immunity. As such, it is a valuable book to mature investigators who need to keep abreast of international contemporary research in these fields. Because of its misplaced emphasis and generally uncritical approach, however, it would not appear to be a good text for beginners, many of whom have not yet developed a basis for critical judgment.

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This is a multiauthored monographic presentation of tumors of the oral cavity and pharynx, which uses the format of those monographs previously published by the Armed Forces Institute of Pathology. This format includes a Table of Contents, a text which contains scattered photographs, and no index. The authors are all well-known pathologists on the staff of the Mayo Clinic, and the presentation is from a large series of tumors from patients seen and treated at this one institution. There has been a need for just this type of collective experience, for it points out the commonest, as well as the rarest lesions that afflict these patients together with end results reporting.

The quality of the glossy paper in this fascicle is not as good as that of preceding fascicles. This has resulted in photomicrographs which are good but not superb, and some that are of little value. This, together with compromise of space, has resulted in reduction in the size of the photomicrographs which, in turn, does not do justice to the material. In spite of these production problems, an experienced observer will have no difficulty in interpreting the vast majority of the photomicrographs.

There are few areas with which to find fault in the written text. Each anatomic site is usually covered in depth by each of the authors, and the numerous tables and references add to the high quality of the factual matter. There are, however, some definite objections to the imprecision of the anatomic divisions of the pharynx and "parapharyngeal" area.
This lack of preciseness makes it difficult to correlate statistical occurrence, both as to site and type as well as to survivorship, when compared with other published series. [The type may not be so important, for most of the cancers are squamous cell carcinomas.] It would have been much better to have used the anatomic dimensions of the American Joint Committee for Staging Cancer and End Results Reporting.

Carcinomas in situ and so-called “early” carcinomas do not receive the emphasis they deserve. Many premalignant leukoplakias are just a step away from being carcinomas in situ, although not all carcinomas arise in this manner. Perhaps these incipient cancers were not prevalent in the patients seen at the Mayo Clinic or were overlooked during the period of the development of the overt cancer before the patient was seen at the clinic. Other minor faults are occasionally present, such as the designation of the vermilion border of the lip as mucosa, rather than modified epidermis. This is one of the common errors found in texts. The subject of mucocele is also of interest, for these are not cysts (epithelial-lined), but are extravasation of mucus, due to trauma, from a ruptured minor salivary gland duct (not obstruction).

The fascicle will be most useful to those pathologists with some background in head and neck cancer. To them, the above criticisms will be dwarfed by the value of the comprehensive coverage of tumors of the oral cavity and pharynx.

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This textbook-type consolidation of information on “those systems which are currently being used to study the nature and mechanisms of the leukemic process,” is timely and no doubt will be a welcome addition to the ready reference shelf of investigators of various disciplines who use, or plan to use, these systems in their respective experimental approaches to the overall problem of leukemia.

As is evident from the historic perspective given by Furth in the opening chapter, as well as from the selections, by the editor, of titles and contributors for the remaining eleven chapters, the major emphasis of research at the present time is on the avian and murine leukemogenic viruses and the use of information derived from these systems in the search for comparable etiologic agents in other animal species. Six of the chapters are devoted exclusively to viruses and virus-induced diseases of these systems, including: an overview of the entire field of virus-induced murine leukemia (Chapter 2, by Rich); the ultrastructural morphology of murine leukemia viruses (Chapter 4, by de Harven); comprehensive interpretations of the many influences related to both host and viral factors in the bewildering array of manifestations which characterize the avian leukemia complex of diseases (Chapter 9, by Beard); the pathology of diseases of the avian leukemia complex (Chapter 10, by Helmbolt and Fredrickson); the antigenic structure and role of virus antigens in immunity to the avian leukosis/sarcoma viruses (Chapter 11, by Dougherty); and virus-cell relationships, based on electron microscopic studies of an avian myeloblastosis virus, as a model for human leukemia research (Chapter 12, by de Thé).

In addition, Chapter 3 (by Siegler), on the pathology of murine leukemia, deals in depth with the pathogenesis and physiopathology of certain virus-induced leukemias; Chapter 5 (by Upton and Cosgrove), on radiation-induced leukemia, summarizes and analyzes current information on the activation of latent leukemia virus infections of mice by radiation, an area of increasing interest and activity in experimental leukemia. Chapter 7 (by Rickard) surveys the evidence for occasional cell-free transmissibility of, and the association of C-type virus particles with, both the thymic form of cat leukemia and mast cell neoplasms of dogs. Although these systems, which involve higher mammals, are not yet sufficiently developed to be exploited as broad systematic studies, Rickard suggests that both can now be used in experimental leukemia research. The present status of the bovine leukemia problem is analyzed in Chapter 8 (by Marshak and Abt), which summarizes both the epidemiologic evidence that has been interpreted as supporting an infectious etiology and studies that have been made in the search for a viral etiologic agent associated with leukemia in this species. Familial aggregations of leukemia cases and the problems associated with, and the future course of, bovine leukemia research are discussed.

The remaining chapter (Chapter 6, by Bergs) concerns chemical- and hormone-induced leukemia. It is one of only two chapters devoted to leukemogenesis by agents other than viruses (the other being Chapter 5, on radiation), and is the only one that does not include a discussion of viruses at least to some extent. This is not pointed out with the implication that chemical and hormonal agents produce leukemia only by activating latent virus infections, but because much of the work in this field has been done in mice, and most mouse strains are now known to harbor apparent infections of leukemogenic viruses. The latter, therefore, could have complicated the studies done in mice. The long period of relative inactivity in the area of leukemogenesis research (which lasted until very recently) is reflected by the facts that (a) the most recent comprehensive reviews cited were published in the early 1950’s, and (b) only two references included in the selective bibliography have publication dates later than 1964. One of these (Huggins and Sugiyama, 1966) involved studies in rats, under the assumption that in this species “neither leukemia nor mammary tumors are caused by viruses” (see Chapter 1).

Current activity in the search for demonstrable leukemia virus in mice with chemical- and hormone-induced leukemia could result in the need for a supplement to the information in Chapter 6 within the near future.

Another chapter that many readers will want to see supplemented with additional information as soon as feasible is the one by de Harven (Chapter 4), which reveals a controversy (or at least major differences of opinion) among electron microscopists on nomenclature to be applied to the different structural forms of the RNA tumor viruses.

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