April 20, 1956

Dear Doctor:

The University of Texas M. D. Anderson Hospital and Tumor Institute has three functions—research, education, and service. The purpose of this Quarterly Newsletter is to inform the physicians of Texas of the progress made at this branch of The University in pursuing these functions, and further, to report to them on new developments in all fields of cancer activity.

The Quarterly Newsletter will carry brief reports on research, conducted throughout the world, results of which may be expected to be of immediate benefit to the cancer patient. Results of work in progress on some 90 research projects at Anderson Hospital will be reported at times.

As a branch of The University of Texas, M. D. Anderson Hospital engages in various educational activities in the field of oncology. Courses of many different types are available to physicians, nurses, and other medical professional people in Texas. Announcements of these programs will appear in this medium.

As the Texas cancer hospital, Anderson has a service obligation to the cancer patients of the state, through their physicians. Since, by policy of the Board of Regents of The University of Texas, a patient is admitted to M. D. Anderson Hospital only on referral by a practicing physician, this Quarterly will acquaint Texas physicians with the administrative policies and procedures of the hospital.

This Newsletter goes only to physicians. We welcome at all times the advice and aid of the Texas physicians in furthering our mutual objectives.

Sincerely yours,

Logan Wilson, President,
The University of Texas

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**ELECTRON MICROSCOPE**

The newly designed RCA electron microscope was recently installed at MDAH. It is so powerful that it can magnify objects up to 30,000 times their original size, and photographically the specimen can be enlarged 300,000 times. The resolution of the new microscope is 10 ångströms as compared with 50 to 100 ångströms of previous models. The microscope is so constructed that the specimens examined can be studied by stages from the highest magnification of the light microscope up to the magnification achieved with the electron microscope.

The microscope and its accessory equipment was paid for by an anonymous $35,000 gift of a Texas philanthropist.

The electron microscope will be used principally to further cancer research being conducted and supervised by Dr. Leon Dmochowski, virologist and experimental pathologist at the hospital. It will also be used for undergraduate and postgraduate instruction courses in electron microscopy.

Previous studies conducted by Dr. Dmochowski at the University of Leeds in England, and at Columbia University in New York, (Continued on Page 2)
ELECTRONIC MICROSCOPE
(Cont’d) concentrated on a search for the agent responsible for the origin of mammary cancer in mice. He was able to distinguish, in the cells of certain tumors characteristic particles similar in structure to particles present in tissues infected with viruses.

The studies conducted at Anderson Hospital will seek an elucidation of the structure of human and animal tumors which have a known viral origin, as well as the structure of tumors of unknown origin. Dr. Dmochowski will also investigate the cause of eye cancer in cattle; further, he will attempt to purify transmitting agents which may be responsible for various tumors in animals.

CATTLE CANCER EYE
Historical and Pathological Results of Five Year Study

The results of a five year study of "cancer eye" in cattle was published under the title "Studies on Bovine Ocular Squamous Carcinoma ("Cancer Eye") I. Pathological Anatomy and Historical Review" in the Jan.-Feb. issue of Cancer.

The investigation was made possible with the cooperation and assistance of the National Cancer Institute, American Cancer Society, ranchers, veterinarians, federal meat inspectors and cattle breeders' associations. The study involved clinical examination of 1,200 living cattle, pathological examination of 830 eyes from cattle and a review of the scientific literature on the disease.

The bovine lesions bear a marked similarity to lesions in the human eye, but the incidence of the disease in cattle is perhaps as much as 10,000 times the incidence of similar cancer in man.

In the cells of all types of "cancer eye" lesions, but not in normal cells, the pathologists consistently observed one or more unknown bodies in the nucleus. Though their nature and significance are unknown, their presence is considered consistent with a possible viral origin.

Some conclusions reached by the study are:
1) Squamous, carcinoma originates in the conjunctival sac from a plaque, and passes in some cases through a papilloma stage. On the lid, the benign lesions are keratoses and acanthoses with ulceration.
2) Metastasis occurred in 19 of 102 affected eyes for which regional lymph nodes were available for study.
3) Twenty per cent of the eyes had more than one lesion.
4) The pathogenesis and pathologic anatomy of bovine ocular squamous carcinomas are similar to those of ocular squamous carcinoma and its forerunner lesion in man. Since squamous carcinomas of the human eye are rare, the disease in cattle affords needed opportunity to secure information of potential value in human medicine.
5) In the differential diagnosis of bovine ocular squamous carcinoma it is necessary to consider traumatic injury, ulcer, and chronic inflammation (including the after effects of "pink eye").
6) A review of the literature on both bovine ocular squamous carcinoma reveals that additional research is urgently needed, particularly on clinical course, inheritance factors, experimental transmissibility, role (if any) of pigmentation of circumocular skin and limbal epithelium, therapy with adequate follow-up, etiology, and immunology.

SKIN CANCER
Psoralen Compound Tested May Be Ca. Preventative

A drug that may be helpful in combating the ultraviolet carcinogenic effect of sunlight will undergo clinical investigation soon.

During the last year work has been in progress at Anderson Hospital on the investigation of compounds of the psoralen group that affect ultraviolet skin carcinogenesis. Both fundamental and clinical reports here and elsewhere indicate that exposure of skin to ultraviolet radiation probably results in the formation of skin tumors.

Studies are now in progress to determine the possible effects of the psoralen drugs on ultraviolet skin carcinogenesis in albino mice. Oral administration of 8-methoxypsoralen has been found to afford a considerable degree of protection against the carcinogenic action of ultraviolet light. When injected just before exposure to the light, however, the drug greatly accelerated the cancer forming process. These drugs also have a

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SKIN CANCER
(Cont’d) pronounced effect upon pigmentation, and have been used in Egypt since ancient times in the treatment of patients with vitiligo.

Clinical investigations will begin in the near future. By the proper administration of these drugs, perhaps it will be possible to prevent skin cancer from occurring in certain susceptible individuals who are exposed to intense sunlight.

ADMISSION POLICY
Referral by Practicing Physician Policy Established by State Law

Residents of Texas are admitted regardless of their financial status, and are charged according to their ability to pay. The same, complete and thorough treatment is rendered to all patients whatever their economic status.

Priority for admission is given to those patients referred from areas of the state with but meager facilities for cancer care.

In accordance with the policy created upon the establishment of The University of Texas M. D. Anderson Hospital, only such cases as are referred to it by a physician are accepted for either consultation or for diagnosis and treatment.

Consultation cases are examined and a report of findings with recommendation of treatment is sent to the referring physician.

Diagnosis and treatment cases are limited to those having a neoplastic or allied disease, and who in the opinion of their physician might be expected to benefit by further examination and treatment. A booklet is available upon request.

FOLLOW UP
As of December 31, 1955 a total of 18,044 individuals have been referred to the Anderson Hospital by 4,022 physicians. All but thirteen Texas counties are represented in the roster of patients. Those that had malignant neoplasms are subject to follow-up by the hospital and their private physicians. The follow-up of the cancer patient is considered as important an aspect of his treatment as the initial surgery or radiotherapy. Regular clinical checks on each patient are for him a life saving measure and for the physician his only index of progress in cancer treatment.

The majority of patients admitted reside in counties outside of Harris County. Many of the patients come from areas with only limited treatment facilities. These patients receive their major therapy here and return to their home communities where they are cared for by the family physician until they are scheduled to return for further examinations. A complete abstract of findings and treatment is prepared from the hospital chart as soon after the patient’s discharge as possible, and is sent to the referring physician. Last year 3,542 reports were sent. Each of these abstracts, letters and follow-up reports was reviewed by the head of the service responsible for the patient and signed after approval. These serve as a completion for the referring physicians files and usually assist in the interval care of the patient.

By checking with the Bureau of Vital Statistics and writing letters to the physicians, welfare workers, nurses' associations, patients and relatives, many of the "lost tract of" group have been found. This problem is becoming less each month. The techniques found to be effective are being distributed to other workers in the state handling the cancer programs in their community.

BERTNER AWARD
Outstanding Contribution to Fundamental Cancer Research

The presentation of the Sixth Annual Bertner Award and Lecture was made following a social hour and dinner at the M. D. Anderson Hospital.

Established in 1950, the national award in honor of the late Dr. E. W. Bertner, first acting director of M. D. Anderson Hospital and the first president of the Texas Medical Center, is presented annually for outstanding contribution in the field of cancer research.

Dr. Joseph C. Aub, Boston, was presented the award for inspirational teaching, work on institutional grants, and metabolic research which is the basis of present-day metabolic studies.

Previous recipients of the Award have been: Fred Stewart, George Smith, Charles Huggins, F. Peyton Rous, and George Papanicolaou.
SYMPOSIUM

Fundamental Cancer Meet Attracts 257 Scientists

Two hundred and fifty seven scientists from 17 states registered for the fundamental cancer research symposium.

Thursday's program consisted of five-minute summaries of 52 of 90 active research projects at MDAH. The consultants, C. P. Rhoads, director of Sloan-Kettering Institute; C. W. Shilling, deputy director of the AEC Division of Biology and Medicine; J. Murray Luck, president of the American Society of Biological Chemists; Theophilus S. Painter, distinguished professor of zoology, Univ. of Texas; Murray Copeland, chairman of Cancer Institutes Cancer Control and Frederick S. Philips, research consultant of the American Cancer Society, gave recommendations.

The Bertner Foundation Lecturer, Dr. Joseph C. Aub, said Friday, "To have lived in the decade when cells began to fall apart chemically and when the marvelous intracellular enzyme reactions began to be understood, has been a great privilege."

Exemplifying some of the work of the decade were papers presented by C. P. Barnum, Univ. of Minn. Med. Sch.; G. A. LePage, Univ. of Wis. Med. Sch.; J. M. Buchanan, Mass. Institute of Technology; Howard E. Skipper, Southern Research Institute; A. Clark Griffin, MDAH; Walter S. Plaut, Univ. of Wis.; Arnold Welch, Yale Univ. Sch. of Med.; and Seymour S. Cohen, Univ. of Pa. Sch. of Med. Van R. Potter, Univ. of Wis. was the chairman.

The papers presented research on techniques and chemotherapeutic possibilities in fields of biochemistry, bacteriology, oncology, pharmacology, botany, zoology, and other sciences.

Saturday morning, reports of the progress in research in the Southwest area were presented.

Alfred Taylor, Univ. of Texas, discussed plant extracts and testing for antitumor possibilities. Over 100 species have been tested.

Edgar Altenburg, Rice Institute, discussed the enhancement of the mutation rate by carcinogens, with the results of studies showing some connection between mutagenesis and carcinogenesis.

T. D. Luckey, Univ. of Mo., discussed a technique for raising experimental animals in a germ free state.

James D. Spain, MDAH, discussed precancerous metabolic alterations in the process of azo dye carcinogenesis.

A. E. Wilhelmi, Emory Univ., gave aspects of the chemistry of the Pituitary growth hormones of different species. The evidence indicated that there are differences between hormones, and there may be fundamental differences in biological activity.

R. H. Rigdon, Univ. of Texas, Galveston, discussed carcinogenesis in the white Pekin duck. A resume of a wide variety of tumors which have been produced in the duck by methylcholanthrene was presented.

Roy B. Mefferd, Univ. of Texas, discussed the progressive biochemical change in the leukemic mouse.

The Eleventh Annual Symposium on Fundamental Cancer Research, with the topic, "Viruses and Tumor Growth," will be held at MDAH, March 7, 8, 9, 1957.

Dr. Leon Dmochowski, virologist and experimental pathologist, will be the chairman.

APPOINTMENT

Miss Renilda E. Hilkemeyer, B.S., R.N., of Columbia, Missouri, has been appointed Director of Nursing at M. D. Anderson Hospital. She will serve as head of the nursing education program. In addition she will be available for consultation in cancer education for nurses in the Southwest.

Miss Hilkemeyer was formerly consultant public health nurse in the Bureau of Cancer Control in the Missouri Division of Health. At the same time she was consultant in nursing education at the Ellis Fischel State Cancer Hospital in Columbia, Missouri, and was in charge of their nursing service.

In August 1954, she was appointed as special consultant to the Nursing Division, Field and Demonstrations Branch of the National Cancer Institute, Bethesda, Maryland. She served as consultant to the Missouri Division of the A.C.S.

In September 1955, she was appointed a member of the National Nursing Advisory Committee of the A.C.S.

A graduate of St. Louis University, St. Mary's Hospital School of Nursing, Miss Hilkemeyer received a B.S. degree in Nursing Education from the George Peabody College for Teachers in Nashville.