Geiger Counter Diagnostic Aid

Dr. Robert S. Nelson, MDAH internist and prof. of medicine, and Dr. William C. Dewey, formerly assoc. physicist and chief of the sec. of isotopes at MDAH, now serving in the department of radiation biology at Colorado State University, Fort Collins, Colorado, have reported on experiments using the Geiger counter and radioisotopes for diagnosing gastrointestinal and other types of neoplasia.

Since it has been shown that malignant tissue accumulates radioactive phosphorus at a more rapid rate and to a greater extent than does normal tissue, patients in the study were given 500 μc of P³² intravenously 18 to 20 hours prior to testing. Miniature Geiger counter tubes were used to detect malignant lesions in various gastrointestinal sites. There were 95 esophageal, 49 gastric, and 8 rectal tests made for the study.

The counter was placed at the tip of a plastic probe and passed through either the esophagoscope, sigmoidoscope, or gastroscope to scan the area under direct vision and to determine readings of the radioactivity.

In the 95 esophageal tests, the diagnostic accuracy of the tests was 94.4 per cent. The scans of the stomach posed some technical difficulties because of inability to reach the lesion with the instru-

Twentieth Annual Symposium on "Carcinogenesis: A Broad Critique"

“Carcinogenesis: A Broad Critique” was the subject of the 20th Annual Symposium on Fundamental Cancer Research held at MDAH March 7, 8, and 9, 1966. Scientists from the United States and abroad presented papers on the latest developments in this aspect of cancer research.

Dr. Manley Mandel, assoc. biologist, chief of the sec. of molecular biology, and assoc. prof. of biology, was chairman of the 1966 symposium committee. Topics discussed at the three-day meeting included: The Etiology of Lymphomas and Leukemias; Carcinogenesis in Mammary Tissues; Carcinogenesis in the Liver; “Dedifferentiation” and Transformation of Cells and Tissue Cultures to Neoplastic States; and The General Status of Chemical and Physical Agents in Carcinogenesis.

Members of the committee who worked with Dr. Mandel on arrangements for the symposium include: Dr. Jeffrey P. Chang, biologist and prof. of biology (pathology); Dr. William C. Dewey, formerly assoc. physicist and chief of the sec. of isotopes, now at Colorado State University; Dr. Leon Dmochowski, virologist, head of the dept. of virology; and prof. of virology; Dr. A. Clark Griffin, biochemist, and prof. of biochemistry; Dr. Murray M. Copeland, assoc. director (education), gen. surgeon (dept. of surgery), and prof. of surgery (oncology); Dr. Russell W. Cumley, editor, head of the dept. of publications, and prof. of medical journalism; Dr. Darrell N. Ward, biochemist, head of the dept. of biochemistry, and prof. of biochemistry.

Assisting the symposium committee was an advisory committee of outstanding scientists in the field of cancer research. These were: Dr. W. Ray Bryan, head of the virus oncology sec. of the National Cancer Institute, Bethesda, Maryland; Dr. Emmanuel Farber, prof. and chairman of the dept. of pathology at the University of Pittsburgh School of Medicine; Dr. Alexander Haddow, director of the Chester Beatty Research Institute, London; Dr. Robert A. Liebelt, prof. and chairman of the dept. of anatomy at Baylor University College of Medicine; Dr. Gordon Sato, from the graduate dept. of biochemistry at Brandeis University; and Dr. Philippe Shubik, prof. of oncology at the Chicago Medical School.
American College of Surgeons Meeting

The American College of Surgeons held its regional meeting January 31 through February 2, in Houston. Papers covering a wide variety of subjects were presented and discussed during the three-day conference.

At the meeting, several papers were presented by MDAH surgery department staff members including: “Parotidectomy” by Dr. Richard H. Jesse, assoc. head and neck surgeon, and assoc. prof. of surgery; “The Mechanics of Cranial Trauma,” Dr. George J. Ehni, clin. assoc. neurosurgeon and chief of the neurosurgery service; “Recurrent Facial Cancer,” Dr. Alando J. Ballantyne, assoc. head and neck surgeon and assoc. prof. of surgery; “Radical Neck Dissection,” Dr. William MacComb, head and neck surgeon, chief, sec. of head and neck surgery, and prof. of surgery; “Transperitoneal Lymphadenectomy for Cancer of the Testis,” Dr. John Stehlin, Jr., assoc. gen. surgeon and assoc. prof. of surgery.

Three MDAH doctors participated as members of discussion panels: Dr. William D. Seybold, clin. assoc. surgeon, “Hiatus Hernia—Indications for and Choice of Operation”; Dr. Edgar C. White, gen. surgeon, chief of the sec. of gen. surgery, head of the dept. of surgery, and prof. of surgery, “Carcinoma of the Breast”; and Dr. Jesse, “Tumors of the Neck—Their Relationship to Primary Disease in the Upper Respiratory Passages.”

Dr. Seybold also presided over an afternoon session concerning “Houston—Past, Present, and Future,” Dr. Howard T. Barkley, clin. assoc. gen. surgeon and chief of the thoracic service, presided over a session on thoracic surgery.

Dr. Seybold acted as chairman for the Houston Advisory Committee on Local Arrangements for the American College of Surgeons’ meeting. Other staff members serving on the committee were: Dr. Jesse; Dr. Ehni; Dr. Frank F. Parrish, clin. assoc. orthopedist and chief of the orthopedic service; and Dr. Murray M. Copeland, assoc. director (education), gen. surgeon (dept. of surgery), and prof. of surgery (oncology).

The semiannual meeting of the American College of Surgeons will be held in Chicago in May.

Book Review


The title of this book does not do justice to its contents. The broad focus emphasizes many areas of diagnosis and treatment which are rarely a part of texts dealing with connective tissue neoplasms.

The radiologists present excellent sections on diagnosis and treatment of bone and soft-tissue tumors. Of particular interest is the section on systematic roentgen diagnosis of bone tumors. In this part Lodwick offers a system of roentgen diagnosis which he feels can yield proper identification of a tumor in 80% of cases. The treatment of sarcomas with radiation and tissue hypoxia are also discussed.

Robert A. Robinson presents a remarkably clear, concise section on the morphology and function of the cellular components of bone which is of interest to the more casual reader but particularly to those preparing for board examinations.

The treatment of sarcomas receives a complete survey which discusses the various disciplines currently in use and considers the results and complications of treatment. The series of treated tumors, in most instances, is large enough to make the accumulated results of therapy statistically valid.

The panel discussion on the controversial subject, the histogenesis of sarcoma, is most valuable. The sequential arrangement of divergent opinions focuses attention on prevailing areas of disagreement and thereby protects the reader from the personal bias of contributors.

A small portion of the book was devoted to the management of pathological fractures. This perplexing problem deserves more comment. The report on 82 cases of rhabdomyosarcoma produced much useful information. It is unfortunate that the other soft-tissue tumors are not handled in a similar manner. The tumors of bone are discussed by men well known in the field of bone pathology.

This book contains information which is not readily available from a single source. Used in conjunction with a good orthopedic pathology text it should place the orthopedist faced with a sarcoma in a comfortably informed position.
facilities. The funds will be utilized to supplement support for the extension of other radiotherapy research.

Dr. Clifton D. Mountain (dept. of surgery) has been awarded a grant for the continued study of helical and related megamolecules produced in vitro. In this project on biologic crystals and particles, he will attempt to determine the origin of the megamolecules and to analyze and to characterize their composition. The transformation pathways and growth phases of these crystals and particles will be followed by time-lapse and serial phase-contrast micrographic techniques.

Dr. Grant Taylor (chm., Southwest Cancer Chemotherapy Study Group headquarters) received support for the Southwest Cancer Chemotherapy Study Group, whose headquarters is located at MDAH. The SCCSG is a cooperative program for the study and treatment of cancer by chemotherapy among 18 member institutions in the southwest. The headquarters provides services to the group's institutions by maintaining records for group studies. During the period of July 1, 1964, through June 30, 1965, the SCCSG initiated a total of 968 studies. Phase I studies have been discontinued with terephthalanilide and completed with actinogain and alpha sarcin. Phase II studies with alpha sarcin, melphalan, and methylhydrazine are in progress. Phase II studies with hydroxyurea have been completed.

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Tenth Annual Clinical Conference

The Tenth Annual Clinical Conference on “Cancer of the Gastrointestinal Tract” was held on November 5 and 6, 1965. More than 300 physicians, representing 24 states and two foreign countries, registered and attended the two-day conference.

Co-chairmen for the conference were Dr. Richard G. Martin, assoc. gen. surgeon and assoc. prof. of surgery, and Dr. Robert S. Nelson, internist and prof. of medicine. Working with the co-chairmen was a program committee composed of the following MDAH staff members: Dr. M. M. Copeland; Dr. Russell W. Cumley; Dr. H. Stephen Gallager; Dr. Clifton D. Howe; Miss Eleanor MacDonald; Dr. John P. McGraw (now at Baptist Memorial Hospital, Memphis, Tennessee); Dr. Lowell S. Miller; Dr. John A. Shively; and Dr. John S. Stehlin, Jr.

Presiding at the sessions were Dr. Martin, Dr. Nelson, and Dr. Copeland, assoc. director (education), gen. surgeon (dept. of surgery), and prof. of surgery (oncology) at MDAH.

The first paper, “Segmental Anatomy of the Liver with Special Reference to the Blood Supply of Tumors,” was presented by Dr. John E. Healey, Jr., assoc. exper. surgeon, chief of the sections of exper. surgery and physical medicine, and prof. of anatomy at MDAH. He described the patterns of biliary and vascular channels distributed throughout the liver and related this knowledge to treatment of hepatic diseases by partial hepatic resections and to segmental localization of liver tumors. Dr. Healey then discussed some of the apparent problems encountered in perfusion or infusion techniques of chemotherapy for liver cancers.

“The Clinical Aspects of Primary Carcinoma of the Liver” was presented by Dr. Robert S. Nelson. Dr. Clifton D. Howe, internist, chief of the gen. medicine service, head of the dept. of medicine, and prof. of medicine at MDAH, and Dr. Ricardo de Elizalde (resident at MDAH, 1963–1964), Buenos Aires, Argentina, were coauthors. Dr. Nelson discussed modern techniques of surgical or percutaneous needle biopsy examinations, liver scanning with radioactive I131 rose bengal, and liver function studies as means of diagnosing primary carcinoma of the liver in time for treatment. However, therapy by surgical resection or chemotherapy has not appreciably affected the survival time or the course of the disease in the patients included in this study.

Dr. George T. Pack, Pack Medical Foundation, New York, spoke on “Surgical Treatment of Primary and Metastatic Tumors of the Liver.” After major hepatic lobectomy, regenerative hyperplasia occurs within the remaining tissues. Because of this remarkable return of liver function, Dr. Pack recommended surgical procedures in cases where feasible.

In his paper, “The Chemotherapy of Liver Cancer by Prolonged Ambulatory Hepatic Artery Infusion,” Dr. Robert D. Sullivan, director of the dept. of cancer research, Lahey Clinic Foundation, discussed specific antitumor drug therapy, the long-term infusion of antime tabolite drugs in primary and metastatic cancer of the liver, and cancer of the gall bladder and bile ducts.

Dr. Howard F. Raskin, assoc. prof. and head, division of gastroenterology, University of Maryland School of Medicine, Baltimore, presented a paper entitled “The Diagnosis of Cancer of the Pancreas, 1965.” Dr. Raskin discussed the current research endeavors in earlier diagnosis of pancreatic cancer and described the secretin test, the most accurate and reliable diagnostic method.

Dr. Robert M. Zollinger, prof. and chairman, dept. of surgery, The Ohio State University College of Medicine, Columbus, Ohio, presented a paper entitled “Ulcerogenic Tumors of the Pancreas.”

Three papers on X-ray therapy for gastrointestinal carcinoma were presented by Dr. James J. Nickson, director of radium therapy at Michael Reese Hospital, Chicago. The papers were “Use of X-Ray Therapy in Treatment of Pancreatic Carcinoma,” “X-Ray Therapy in the Treatment of Esophageal Carcinoma,” and “Preoperative X-Ray Therapy in the Treatment of Carcinoma of the Rectum.”

(Continued on Page 5)
Differential Diagnosis of Gastric Tumors was discussed by Dr. Charles A. Flood, prof. of clin. medicine, Columbia University College of Physicians and Surgeons, New York. Dr. Flood stated that about 25 per cent of patients with gastric cancer probably have had upper abdominal complaints prior to the development of cancer. He went on to discuss the possible relationships between benign and cancerous stomach disease.

"Premalignant Lesions of the Stomach" was discussed by Dr. Charles A. Flood, prof. of clin. medicine, Columbia University College of Physicians and Surgeons, New York. Dr. Flood stated that about 25 per cent of patients with gastric cancer probably have had upper abdominal complaints prior to the development of cancer. He went on to discuss the possible relationships between benign and cancerous stomach disease.

"Functioning Carcinoid Tumors" was presented by Dr. Harold Brown, prof. of medicine, Baylor University College of Medicine, Houston. Dr. Brown reported on his observations of 13 patients with functioning carcinoid tumors, and emphasized the protean nature of the clinical and biochemical manifestations of the disorder.

Dr. Richard G. Martin presented a paper entitled "Treatment for Squamous Cell Carcinoma of the Anus." Coauthors of the paper were Dr. Lowell S. Miller, assoc. radiotherapist and assoc. prof. of radiology at MDAH, and Dr. Roger G. Thorpe, fellow in surgery at MDAH, 1964–1965. Dr. Martin discussed a series of cases of squamous cell carcinoma of the anus and various methods of therapy used at MDAH.

Dr. Thomas Carlile, chairman, dept. of radiology, The Mason Clinic, Seattle, presented a paper entitled "The Roentgenological Diagnosis of Carcinoma of the Colon," in which he emphasized the value of persistence and care in searching for polyps.

"Surgical Treatment of Cancer of the Colon" was discussed by Dr. John S. Stehlin, Jr., assoc. gen. surgeon and assoc. prof. of surgery at MDAH. Dr. Stehlin reviewed some fundamental concepts of surgical therapy, which, if applied, would be of value in treating cancer of the colon. He also discussed preoperative evaluation and malignant extension in the colon.

"The Status of Polypoid and Papillary Adenomas of the Large Intestine" was the title of the paper presented by Dr. David A. Wood, director of the Cancer Research Institute, University of California School of Medicine, San Francisco.

Dr. Anthony R. Curreri, director, division of clinical oncology, and prof. of surgery, the Univ. of Wisconsin, Univ. Hospitals, Madison, spoke on "Systemic Chemotherapy for Gastrointestinal Carcinoma."

Included in the meeting’s agenda were three discussions, conducted at the conclusion of each session and moderated by the session chairmen.

The proceedings of the conference are to be published as a monograph entitled "Cancer of the Gastrointestinal Tract."

Two papers which were not presented at the conference, but which will be included in the monograph of the proceedings, were "Epidemiology of Gastric Cancer" and "Multiple Primaries" by Miss Eleanor J. Macdonald, epidemiologist, head of the dept. of epidemiology, and prof. of epidemiology at MDAH.

Murine Leukemia Conference

Members of the MDAH dept. of virology participated in the International Conference on Murine Leukemia held in Philadelphia on October 14 through 16, 1965. Dr. Leon Dmochowski, virologist, head of the dept. of virology, and prof. of virology at MDAH, served as chairman of the session on "Morphology and Development of Murine Leukemia Viruses."

Several papers written by MDAH researchers were presented at the conference. Dr. Tokichi Yumoto, postdoctoral fellow in virology, discussed "Morphology and Development of Some Murine Leukemia Viruses." His paper was coauthored by Drs. Louis Recher, John A. Sykes, and Leon Dmochowski. "Biological Relationship of Murine Leukemia Viruses" was presented by Dr. Louis Recher, asst. virologist and asst. prof. of virology at MDAH. Coauthors of the paper were Drs. T. Tanaka, Sykes, Gabriel Seman, and Dmochowski and Mr. Landrum Young.

Dr. Sykes spoke on "Studies on Leukemia in Mice Associated with a Transplantable Methylcholanthrene Induced Hepatoma." Mr. Tom Rogers and Drs. A. G. Liebelt, R. A. Liebelt, and Dmochowski were the coauthors. Dr. Jennifer J. Harvey, postdoctoral fellow in virology, presented a paper entitled "Studies on a Murine Sarcoma Virus." "Electron Microscope Studies of Leukemia in Mice and Men" was discussed by Dr. Recher.
Chemotherapy for African Lymphosarcoma

Dr. Emil Frei, III, assoc. director (clin. research); internist, head of the dept. of developmental therapeutics, and prof. of medicine at MDAH, participated in a symposium on “Chemotherapy of African Lymphosarcoma (Burkitt's Tumor),” which was held in Kampala, Uganda, on January 5, 6, and 7, 1966.

Dr. Frei's attendance at the symposium on Burkitt's tumor was requested by Dr. Denis P. Burkitt, for whom the tumor is named, and Dr. Joseph H. Burchnal, co-chairmen of the symposium. The symposium was sponsored by the Chemotherapy Panel of the International Union Against Cancer.

In 1963, Dr. Denis P. Burkitt visited Houston and presented a paper entitled “A Children's Cancer Dependent on Environment” at the Seventeenth Annual Symposium on Fundamental Cancer Research, sponsored by MDAH. Dr. Burkitt discussed the characteristic features of the Burkitt tumor syndrome of children, pointing out that the syndrome appeared to be limited to tropical areas of Africa and that its spread seemed dependent upon environmental conditions. He related these factors to the possibility that the Burkitt tumor syndrome is caused by a virus which is borne by an arthropod.

However, recent studies in America have indicated that the syndrome may be present in the United States. Therefore, much attention is being focused on the syndrome to determine whether the Burkitt tumor is the same as certain lymphomatous tumors of children in the United States, and, if so, to demonstrate the etiology of the disease.

Until the origin of the disease is discovered, efforts of clinicians will be directed toward advancing methods of treatment for patients with this tumor entity. At present, chemotherapy, the subject of the African symposium, appears to be one of the most promising modes of treatment and appears to cause the tumors to regress and to remain arrested indefinitely in about 20 per cent of the cases. At the African symposium, Dr. Frei discussed new chemical agents and new techniques available for clinical use in Burkitt's tumor.

Dr. Frei was one of six Americans participating in the symposium. The U.S.A. National Committee of the International Union Against Cancer provided funds for travel and subsistence for the six participants through a grant contributed for this purpose by the American Cancer Society.

New Staff

Recent appointees to the MDAH staff include the following:

Bill R. Brinkley was appointed asst. biologist in the sec. of exper. cytology, dept. of biology. Dr. Brinkley received his B.S. and M.A. degrees from Sam Houston State Teachers College, Huntsville, Texas, and his Ph.D. degree from Iowa State University, Ames, Iowa. Prior to joining the staff, Dr. Brinkley has been a postdoctoral fellow in research cytology at MDAH.

Thomas E. Daly has been appointed to the dept. of surgery as part-time clin. asst. dental surgeon. Dr. Daly, who is also associated with The University of Texas Dental Branch, received his B.S. degree from Texas Wesleyan College, and the D.D.S. degree from Baylor University College of Dentistry.

James K. Luce has been appointed asst. internist, dept. of developmental therapeutics and asst. prof. of medicine. Dr. Luce received the A.B. degree from the University of California, Berkeley, and the M.D. degree from the Yale University School of Medicine, New Haven, Connecticut. He served his internship at the Tripler Army Hospital, Honolulu, Hawaii, and his residency at the San Diego County Hospital, California. Dr. Luce has been associated with the University of California School of Medicine, San Francisco, as a research associate (oncology) and clinical instructor in medicine. He has also been with MEDICO, Inc. in Southeast Asia.

Debdas Mukerjee was appointed asst. biologist, sec. of exper. surgery, dept. of surgery, and asst. prof. of biology. Dr. Mukerjee received the B.S. and M.S. degrees from the University of Calcutta, India, and the Ph.D. degree from the University of Kentucky, Lexington. Prior to joining the staff of MDAH, he was associated with the University of Utah Medical College, Salt Lake City, as a research associate.

Roman J. Pienta has accepted the position of assoc. microbiologist and assoc. prof. of microbiology, res. clin. pathology, dept. of pathology. He received the B.S. degree from Pennsylvania State University, and the M.S. and Ph.D. degrees from Rutgers University. Prior to joining the MDAH staff, Dr. Pienta was associated with Rutgers University.


prof. of anesthesiology. The exhibit was arranged by members of the dept. of medical communications. The exhibit was presented at the annual meetings of the Southern Medical Association in Houston, November 1 through 4, 1965, and of the New York Postgraduate Assembly in Anesthesiology in New York City, December 11 through 17, 1965.

The technique illustrated by the exhibit is the result of a continuing study conducted by the MDAli anesthesiology staff. The March 1957 issue of the News Letter reported this technique to be a promising mode of pain control for the advanced cancer patient.

Instead of blocking the nerve root at the intervertebral foramina where the nerve emerges from the spinal column, the nerve is blocked at its cord level without surgically severing the root or the involved section of the cord. After the pain pathway has been carefully determined, the anesthesiologist deposits a chemical agent within the subarachnoid space at the proper level, thus interrupting sensory transmission without harming the interior motor root. The patient is carefully positioned so that the chemical agent, which is lighter than water, may float to the highest point and bathe the root. Immediately, warmth or burning is felt in the area, and then pain disappears. Pain relief lasts from three to six months, at which time the procedure may be repeated. This technique of intractable pain control has had good clinical results.