FIFTEENTH ANNUAL SYMPOSIUM

A total of 433 physicians and research scientists registered for the Fourteenth Annual Symposium on Fundamental Cancer Research, February 25, 26, and 27, 1960, sponsored by The University of Texas M. D. Anderson Hospital and Tumor Institute. The title of the symposium was Cell Physiology of Neoplasia. There were 31 states, the District of Columbia, and seven foreign countries represented, with 174 registrants from states other than Texas, and 14 registrants from other countries—Australia, Canada, England, Finland, Japan, Poland, and Sweden.

A highlight of the symposium was presentation of the Tenth Annual Bertner Foundation Award to E. V. Cowdry, director of the Wernse Cancer Research Laboratory, Washington University School of Medicine, St. Louis, Missouri, for his extensive investigations of cancer cells and for his fundamental studies in cytology that bear upon the cancer problem. Author of the classic volume, Cancer Cells, Dr. Cowdry outlined and helped define the field of cancer cytology. This book is a milestone in the field of cancer research. Dr. Cowdry assisted with the establishment of protocol for cancer investigation, and has had a tremendous philosophical impact as a teacher. His influence on modern cancer research has been greatly enhanced by his personality as well as by his mental acuity.

The Bertner Foundation Award was established in 1950 to honor the late Dr. E. W. Bertner, first acting director of M. D. Anderson Hospital, and first director of the Texas Medical Center. The award is presented annually to a physician or scientist who has made an outstanding contribution to some field of cancer research.

Papers presented at the symposium will be published by The University of Texas Press, as the fourth in the series of symposium monographs.

Co-sponsors of the Fourteenth Annual Symposium were The University of Texas Postgraduate School of Medicine; the American Cancer Society, Texas Division; the Texas State Department of Health; and the National Science Foundation.

T. C. Hsu of the section of experimental cytology at MDAH was chairman of the symposium, T. S. Painter of The University of Texas was honorary chairman.

CONFERENCE SCHEDULED

"Malignant Tumors of the Female Pelvis" will be the subject of the Fifth Annual Clinical Conference, to be held at The University of Texas M. D. Anderson Hospital and Tumor Institute on October 21 and 22, 1960.

Treatment procedures for patients with carcinoma of the cervix, endometrium, and ovary will be discussed in lectures and panel discussions. Clinical activities at MDAH will be reviewed by discussion of experience and policies of treatment.

Dr. Hans Kottmeier, of the Radiumhemmet in Stockholm, Sweden, will be guest speaker at the Conference. His lecture will be on ovarian carcinoma.

TOXOHORMONE PURIFIED

The most highly purified form of toxohormone yet reported has been obtained by biochemists at MDAH. The toxohormone preparation is also the most effective in inhibiting or reducing liver catalase. The decrease of liver catalase activity in tumor-bearing animals, attributed to toxohormone, is considered to be one of the conspicuous changes associated with the existence of a malignant tumor.

Kazao Yunoki, on leave from the department of internal medicine, Kagoshima University School of Medicine in Kagoshima, Japan, and A. Clark Griffin, head of the department of biochemistry, have reported their findings in Cancer Research (May, 1960).

Utilizing column chromatography, they obtained three fractions, TH₁, TH₂, and TH₃, from crude toxohormone that was derived from a variety of human malignant tumors. Liver catalase activity in mouse bioassay procedures was decreased by an injection (only 1 microgram) of the TH₂ fraction. TH₂ is found only in malignant tumors. Small quantities of TH₁ and TH₃ were observed in several normal tissues and especially spleen.

The activity of the TH₂ fraction obtained from human malignant tissue was approximately 50,000 times more effective in reducing the liver catalase than the reported activity of other crude toxohormone preparations.

With the purified fraction it will be possible to investigate the mechanism by which liver catalase is depressed. Also studies of the action of toxohormone may help to explain the severe anemias that are often found in patients with cancer. It also will help determine the possible role of toxohormone in the origin and behavior of malignant tissue.

If it can be firmly established that TH₁ is found in cancer tissues and not in normal tissues it represents the first qualitative difference discovered between normal and malignant growth.
CONSULTANT HONORED

Wilson Stuart Stone, professor of zoology and director of the Genetics Foundation at The University of Texas, has been elected a member of the National Academy of Sciences. Dr. Stone is consultant in genetics for MDAH. He is co-editor of “Genetics,” a scientific journal with international circulation published at the University. He is noted for his research on genetic effects of radiation.

Membership in the National Academy is considered the highest honor an American scientist can receive from any scientific group in this country.

STAFF APPOINTMENT

Patrick A. Dolan was appointed assistant radiologist, department of radiology, January 1. He received his B.A. and M.A. degrees from the University of Saskatchewan, Saskatoon, Canada, and prior to studying medicine, he spent 18 months in nuclear research at the University of British Columbia. He received his M.D. degree from the University of Western Ontario, London, Canada. He was a fellow and instructor in radiology at the University of Western Ontario from 1956 to 1959. During 1959, he was an instructor in diagnostic radiology at Baylor University College of Medicine.

HIGH SCHOOL STUDENTS TO RECEIVE SUMMER TRAINING AT MDAH

Sixteen Texas high school students will participate in a six-week Summer Science Training Program for Secondary School Students at MDAH, under the sponsorship of the National Science Foundation.

Trainees are selected by recommendation of their school principal and teachers, on the basis of their interest in science and their scholastic ability.

Students who have been chosen to attend are: Jon Standefer, Abilene High School, Abilene; Susan Brown, Stephen F. Austin High School, Austin; Ray Wende, Bellaire High School, Bellaire; Grace Broussard, Robert E. Lee High School, Baytown; Becky Cardiff, Katy High School, Katy; Martha Puryear, McAllen High School, McAllen; Guy Clark, Rockport-Aransas County High School, Rockport; Tom McKelvey, Alamo Heights High School, San Antonio; Marcelyn Green, Tulia High School, Tulia; and Mary Lou Harpole, Uvalde High School, Uvalde. Other student trainees will be announced at a later date.

The National Science Foundation is supporting 137 summer training programs at colleges, universities, and non-profit research organizations in the United States and Puerto Rico. The programs are designed to encourage the scientific interest of students by giving them the opportunity to work on college-level research projects under the guidance of trained scientists.

H. Grant Taylor, of the office of education is directing the program at MDAH.

CLINIC VISITS

During the fiscal year September 1, 1958, through August 31, 1959, visits to MDAH clinics were as follows:

<table>
<thead>
<tr>
<th>Service</th>
<th>No. of Patients</th>
<th>Total Visits</th>
<th>Avg. Visits per Patient</th>
</tr>
</thead>
<tbody>
<tr>
<td>Breast</td>
<td>1,273</td>
<td>15,203</td>
<td>11.9</td>
</tr>
<tr>
<td>Bone</td>
<td>84</td>
<td>916</td>
<td>10.9</td>
</tr>
<tr>
<td>Gastric</td>
<td>357</td>
<td>4,809</td>
<td>13.5</td>
</tr>
<tr>
<td>Urological</td>
<td>586</td>
<td>7,993</td>
<td>13.6</td>
</tr>
<tr>
<td>Gynecological</td>
<td>1,972</td>
<td>21,825</td>
<td>11.1</td>
</tr>
<tr>
<td>Head and Neck</td>
<td>5,324</td>
<td>27,294</td>
<td>7.1</td>
</tr>
<tr>
<td>Medical</td>
<td>693</td>
<td>11,896</td>
<td>17.2</td>
</tr>
<tr>
<td>Mixed Tumor</td>
<td>1,118</td>
<td>9,887</td>
<td>8.8</td>
</tr>
<tr>
<td>Colon-Rectal</td>
<td>493</td>
<td>4,773</td>
<td>9.7</td>
</tr>
<tr>
<td>Thoracic</td>
<td>426</td>
<td>6,199</td>
<td>14.6</td>
</tr>
<tr>
<td>Pediatrics</td>
<td>270</td>
<td>3,458</td>
<td>12.8</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>11,096</strong></td>
<td><strong>114,253</strong></td>
<td><strong>10.3</strong></td>
</tr>
</tbody>
</table>

*Total visits include: visits of patients to radiotherapy, laboratories, etc., resulting from visit to the service listed.

DU VIGNEAUD SPEAKS

Vincent du Vigneaud, winner of the 1955 Nobel Prize in chemistry, spoke at The University of Texas M. D. Anderson Hospital and Tumor Institute, April 27 on “The Hormones of the Posterior Pituitary Gland.” Dr. du Vigneaud was awarded the Nobel Prize for outstanding contributions to the field of sulfur chemistry and in particular for the first synthesis of a polypeptide hormone, oxytocin.

Besides oxytocin, Dr. du Vigneaud also discussed studies of another pituitary hormone—vasopressin. As with oxytocin, his studies of vasopressin culminated in isolation and synthesis of the hormone. The commercially available preparations from natural sources are only partially purified, and as such are sometimes allergic to some patients. The non-allergenic nature is established for the pure synthetic compounds.

After outlining the original findings, Dr. du Vigneaud described work that is under way to correlate structure of vasopressin and of oxytocin with the biological effects of these compounds. Analogs of the compounds have shown some antihormonal activity.

Dr. du Vigneaud acknowledged the collaboration of graduate students and postdoctoral fellows in these hormone studies which have been conducted over a 28-year period. One of those mentioned was Darrell N. Ward, associate biochemist at MDAH, who worked with Dr. du Vigneaud on vasopressin from 1952 to 1955.

Since 1938, Dr. du Vigneaud has been with Cornell University Medical College as professor of chemistry and chairman of the department of biochemistry. His talk at M. D. Anderson Hospital was presented as the Second Annual Mike Hogg Lecture.
STAFF PUBLICATIONS

Recent papers published by staff members include the following:


Dmochowski, L.: Recent papers published by staff members include the following:

Ibanez, M. L., W. O. Russell, J. P. Jesse, Jr., and J. E. Healey, Jr.:

White, J. L. Smith, Jr., A. C. Griffin, biochemist, and Nylene E. Eckles, chemist, and

Grey, W. S.:

McKinley, James D.:

Hinds, Edward C., and A. Harold Stills:


RESEARCH GRANTS AWARDED

A total of $310,342, representing 18 grants, has been received by MDAH in support of research and education. The National Cancer Institute of the U. S. granted:

1) R. B. Hurlbert, associate biochemist, and E. C. Moore, assistant in biochemistry, $19,198 for research on cytidine nucleotides and the biosynthesis of DNA.

2) F. L. Haas, biologist, $35,409 for the study of cellular substances required for induction of mutation.

3) Gilbert H. Fletcher, radiotherapist, $11,615 for a cooperative study of radiation treatment of cancer.

4) F. L. Haas, biologist, $45,792 for research training in biology.

5) W. O. Russell, pathologist, $47,604 for the study of trace metal patterns for cancer diagnosis.

6) R. J. Shalek, associate physicist, $8,959 for investigation of radiation effects on dilute solutions of lysozyme.

7) H. T. Barkley, clinical associate general surgeon, and E. C. White, general surgeon, $2,496 for clinical trials—chemotherapy as adjuvant to surgery.

8) Mary L. Alexander, assistant biologist, $9,794 for study of the effect of partial pressures of gases on biological damage in the developing germ cells of Drosophila virilis.

9) George G. Rose, assistant biologist, $5,741 for induction of cytodeformations in tissue cultures.

Atomic Energy Commission granted:

1) $27,000, to W. K. Sinclair, physicist, for physical and radiobiological investigations with 22-Mev x-rays and electrons as compared with cobalt-60 gamma rays and 200 kvp x-rays.

2) $21,525, to C. O. Doudney, associate biologist, to investigate the role of nucleic acid in amino acid incorporation into protein and in enzyme synthesis and genetic implications.

Robert A. Welch Foundation granted:

1) Bruno Jirgensons, biochemist, $20,000 for structural studies on serum albumins.

2) A. C. Griffin, biochemist, $15,000 for isolation and study of deoxyribonucleoproteins from normal and malignant tissues.

National Science Foundation awarded:

1) $3,970 in support of a summer science training program for secondary school students, under the direction of H. Grant Taylor, office of education.

2) $6,700 in support of the Symposium on Cell Physiology of Neoplasia. The National Heart Institute of the U. S. awarded $2,793 to D. E. Bergsagel, associate internist, for study of activation of purified prothrombin by blood thromboplastin.

American Cancer Society granted:

1) A. C. Griffin, biochemist, $12,846 for the isolation of factors from malignant tissue affecting metabolism.

2) Saul Kit, associate biochemist, $13,900, for study of the nucleic acids of normal tissues and tumors.

STAFF ACTIVITIES

R. W. Baird, Jr., department of medicine, delivered a paper on the Treatment of Cancer of the Posterior Pharyngeal Wall and Cervical Esophagus to the Texas Medical Association meeting in Fort Worth, April 9 to 12.

A. J. Ballantyne, associate head and neck surgeon, spoke on "Surgical Treatment of Cancer of the Pterygoid Canal and Medial Clinic," at the Texas Medical Association meeting in Fort Worth, April 9 to 12.

R. Lee Clark, Jr., Director and Surgeon-in-Chief, met with the Am. Col. of Surgeons sectional meeting in Boston, Massachusetts, March 1 to 3, where he spoke on "Research Advances in Surgery of Cancer" and participated in a paper on "Management of Cancer of the Breast." At their later meeting in Colorado Springs, Colorado, on March 22, he spoke on "Management of Soft Tissue Tumors." On March 25 to 26, he addressed the St. Joseph Hospital Annual Medical Assembly in Burbank, California, on "Regional Perfusion Techniques in the Treatment of Localized Cancer," and participated in a panel discussion on "Control of Postoperative Complications."

Lois C. Collins, assistant radiologist, spoke on "The Diaphragmatic Silhouette" at the Pan American Radiologic meeting in Mexico City, May 2 to 6.

Sebron C. Dale, department of medicine, presented a lecture on "Management of Nutritional Problems in the Aged" at the Texas Medical Association meeting in Fort Worth, April 13.

William S. Derrick, anesthesiologist, presented papers at Anesthesia Management of Patients with Malignant Diseases during the annual meeting of the Southern Society of Anesthesiologists in Washington, D. C., April 28 to 30.
The Department of Physics, University of California, Berkeley, presented a paper on "Gastroscopic Color Photography in the Differentiation of Benign and Malignant Gastric Ulcer."