October

To evaluate carcinoembryonic antigen (CEA) in human mammary carcinoma, Chu and Nemoto (Roswell Park Memorial Institute, Buffalo, New York) studied 136 patients with breast cancer. CEA was elevated in 57 of 83 patients with metastases. In 21 women undergoing mastectomy, serial CEA determinations showed rise of CEA level in eight of 15 without apparent metastases and in four of six with demonstrable metastases. In another group of 32 patients having ablative or chemotherapy treatment, CEA dropped in five of 13 responders and increased or remained level in 10 of 19 nonresponders. The authors conclude that serial CEA determination is not an adequate indicator of prognosis in human mammary carcinoma.

Investigating the amino acid requirements of normal and leukemic human blood cells and cells from mouse lymphoma 6C3HED, Schrek et al. (Tumor Research Laboratory, Veterans Administration Hospital, Hines, Illinois) incubated normal and leukemic cells in media lacking either asparagine or glutamine or both. Counts of viable lymphocytes after incubation at 37°C for four days showed that chronic leukemic lymphocytes required glutamine but not asparagine. Normal lymphocytes survived fairly well for four days in the absence of both amino acids. Lymphoblasts from seven patients with acute leukemia and from mouse lymphoma 6C3HED required both glutamine and asparagine for optimal survival.

Grundy and Uzman (National Cancer Institute, Bethesda, Maryland), in a preliminary statistical study, suggested that increased breast cancer risk among women under age 50 in an Arkansas community was related to repeated fluoroscopy at a tuberculosis sanatorium.

In 105 consecutive patients with bronchogenic carcinoma, Smith and co-workers (Veterans Administration Hospital and George Washington University School of Medicine, Washington, D.C.) measured the serum zinc levels. The serum zinc concentration of the cancer patients did not differ significantly from that of the controls. Thus this is not a reliable parameter for diagnosing bronchogenic carcinoma.

November

Using data and specimens from 407 cases of gastric cancer in Miyagi prefecture, Japan, and 256 cases among Japanese in Hawaii, Correa and associates (National Cancer Institute, Bethesda, Maryland) compared the pathology of gastric cancer in the two Japanese populations.

The tumors were assigned histologic types according to the Jarvi-Lauren classification. The age-specific incidence rate for diffuse carcinoma was the same for both localities. The decrease in intestinal, mixed, and other (IMO) types ac-
counted for most of the decline in the total gastric cancer incidence in Hawaii.

The predominance of the diffuse types in the young and of the IMO types in older persons has been kept in both populations, but the age at which the transition in type occurred has changed; the transitional change came earlier in Japan, where high stomach-cancer risk still prevails.

Giard and co-workers (Meloy Laboratories, Springfield, Virginia), with explant and trypsinization techniques, established thirteen cell lines from two hundred human tumors: carcinomas, sarcomas, melanomas and brain neoplasms. These lines exhibited marked refractility, multilayering and criss-crossing and were morphologically distinct from normal contact-inhibited human fibroblast or epithelial lines.

To evaluate a previous report of excess brain-tumor frequency in eastern Kentucky, 1963-69, Creagan and Fraumeni (National Cancer Institute, Bethesda, Maryland) analyzed the mortality from this neoplasm during 1950-69 in a six-county area. Based on State rates, excess risk was observed only for males over age 44 during 1965-69. These observations suggest the selective exposure of males to environmental agents capable of inducing intracranial neoplasms.

Kiehl and associates (Western Michigan University, Kalamazoo, Michigan) confirmed previous observations that heparin inhibited reverse transcriptase (RT) activity in plasma collected from patients with various malignancies. Other coagulants—glass bead defibrination, citrate-phosphate-dextrose solution, or ethylenediaminetetraacetate—were less inhibitory to RT activity.

In a case-control study of Hodgkin's disease, Newell and co-workers (Tulane University, New Orleans, Louisiana) interviewed patients and controls in the Los Angeles and New Orleans areas. The results of the questionnaire did not confirm tonsillectomy, appendectomy or infectious mononucleosis as risk factors in the disease, but did suggest prior use of dexedrine as a significant risk factor. In a companion paper, Henderson et al. (University of California School of Medicine, Los Angeles, California), using blood samples from patients with Hodgkin's disease for antibody determination to herpesvirus and for HL-A antigen typing, found no appreciable change in Epstein-Barr virus titer.

Cochran et al. (University Department of Pathology, the Western Infirmary, Glasgow, Scotland) reported that sera from 25 of 30 patients with Burkitt's lymphoma (BL) inhibited the migration of cell suspensions and tissue cultures in a capillary tube migration assay. Leukemic peripheral blood-cell migration was suppressed by 13 of 21 BL sera. Weak migration inhibition was seen only occasionally with sera from clinically disease-free Europeans. African patients with na-
sopharyngeal carcinoma and African patients with tonsillitis. The inhibitory activity was maximum in the macroglobulin fraction in the sera fractionated on Sephadex. The authors postulate that the suppressive factors may be part of an inhibitory feedback mechanism.

Growth patterns and invasion were correlated with ultrastructural evidence of squamous, basal or glandular modification in seventeen poorly differentiated carcinomas of the human uterine cervix (Auersberg and co-workers, Cancer Research Centre, University of British Columbia, Vancouver, Canada). The results indicated that traits of differentiation, retained to a fragmentary degree not immediately obvious histologically, might influence the growth pattern of these carcinomas and that definite correlations existed between some common histopathologic characteristics of these tumors and specific, retained, normal cell properties.

Searching for etiologic clues, Fraumeni et al. (National Cancer Institute, Bethesda, Maryland) studied 369 death certificates for U.S. children who died from teratomas in 1960-68, and 198 hospital charts of children with this tumor. Mortality rates for girls exceeded those for boys and there was a peak in deaths under age three, primarily from sacrococcygeal tumors in girls. A rising trend in mortality developed after age six for ovarian tumors and after age 14 for testicular tumors. The female predominance at various sites is consistent with the concept of a common origin: Pluripotential germ cells which account for gonadal teratomas in older children may, if ectopic early in life, give rise in infancy to sacrococcygeal and possibly other extragonadal teratomas. Children with congenital anomalies had a high frequency of sacrococcygeal teratomas.

In a retrospective study of nasopharyngeal carcinoma (NPC) in Taiwan, Lin and co-workers (National Taiwan University College of Medicine, Taipei, Taiwan, the Republic of China), measuring the risk of NPC with summary relative risks and chi-square tests, found that smoking, paranasal sinusitis and employment in poorly ventilated places were associated with NPC.

Buell (California Department of Public Health, Berkeley, California) used incidence data from the San Francisco Bay area operation of the Third National Cancer Survey of 1969-71 to examine the increasing incidence of breast cancer among Japanese-American women. This survey revealed that breast cancer risks for Japanese-Americans closely approached those for whites, in contrast to mortality studies around 1959 and 1969 showing breast cancer mortality rates of Japanese-American women only slightly above the low levels prevailing in Japan. The authors postulate that the upward shift in breast cancer risk is due to cultural and environmental changes.