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January

In a comprehensive survey of human breast cancer, MacMahon and colleagues (Harvard School of Public Health, Boston, Massachusetts) review data on known risk factors. The major predictors of risk are age, geographic area of residence, age at birth of first child, certain indicators of ovarian activity, history of benign breast disease and familial history of breast cancer. Specific etiologic hypotheses are also reviewed in relation to the patterns of risk distribution. If a human mammary tumor virus exists, exposure is probably widespread and other causal factors must account for the risk patterns. A hypothesis linking breast cancer risk to estrogen metabolism in early reproductive life is compatible with most epidemiologic and experimental observations on the disease. The roles of exogenous estrogens, prolactin and progesterone remain unevaluated in humans. Familial factors seem most strongly implicated in young women with bilateral disease, but, even among such patients, the nature of the familial factors, genetic or environmental, is unknown.

Gunz and co-workers (Sydney Hospital, Sydney, Australia) analyze chromosomes of the blood and bone marrow in 79 adults with acute leukemia to assess the patients' clinical condition. Remissions occur in 35 percent of the treated patients with abnormal cell lines and in 48 percent of those with only diploid cells. The frequent finding of diploid with aneuploid or pseudodiploid cell populations in untreated patients and of the disappearance of abnormal cells during remission supports the view that improved therapeutic methods to eradicate leukemia cells may lead to better clinical results.

By immunofluorescence of acetone-fixed Burkitt's lymphoma cells, Demissie and Svedmyr (Central Microbiological Laboratory of the Stockholm County, Stockholm, Sweden) demonstrate the differential effect of heating on the intracellular antigens associated with Epstein-Barr virus. The early antigen in superinfected cells is heat labile and the viral capsid antigen is heat resistant. There is no indication that an antigen cross-reacting with other human herpesviruses appears when cells are heated.

Takita and Brugarolas (Roswell Park Memorial Institute, Buffalo, New York) use 1-(2-chloroethyl)-3 cyclohexyl-1 nitrosourea (CCNU, NSC-79037) to treat 50 patients with inoperable bronchogenic carcinoma. The overall response rate is 36 percent. CCNU is effective against squamous cell carcinomas and adenocarcinomas, but the higher response rate to the drug is apparently related to better immunologic status

of the patients. The toxicity of CCNU is mild with the dosage schedule of 130 mg/m^2 every six weeks.

With an extract from human placenta, Baden (Harvard Medical School, Massachusetts General Hospital, Boston, Massachusetts) inhibits cell division and DNA synthesis in rats. The extract is rich in connective fibroblasts, vascular epithelium and leukocytes, and after dialysis and lyophilization, it inhibits thymidine uptake by fibroblasts and lymphocytes in vitro and by epithelium in vivo. This chalone is active against human fibroblasts and lymphocytes as well as rat epidermis. The extract does not act as a cytotoxic agent because normal amounts of radioactive leucine and uridine are incorporated into the cells.

Chopra and Flaxman (Temple University Health Sciences Center, Philadelphia, Pennsylvania) show that psoriatic epidermal cells in vitro respond to the mitotic inhibitory effect of extracts from normal human skin. The depression of mitosis appears to be proportional to the extract concentration. The inhibition is tissue specific, since liver extract has no effect. The authors conclude that excessive proliferation of psoriatic epidermal cells is not due to failure of target-cell response to epidermal chalone.

February

In a prospective study, Miller and Beebe (National Cancer Institute, Bethesda, Maryland) compare 2,437 U.S. veterans with infectious mononucleosis, diagnosed during military service in World War II, to a similar number of controls as to the frequency of death (1946-65) from leukemia-lymphoma, other cancer or other causes. No significant differences are observed. Retrospective study of 2,659 World War II veterans who died of cancer (1950-54 or 1959-63) and an equal number of matched controls also reveals no significant difference in the frequency with which mononucleosis was diagnosed during military service. Thus neither study demonstrates a relationship between clinical mononucleosis and cancer in adult males.

Lozzio and Lozzio (The University of Tennessee Memorial Research Center and Hospital, Knoxville, Tennessee) have isolated a cytotoxic factor for malignant cells from normal and abnormal human spleens. This inhibitor is cytotoxic for human fibroblasts, myeloid leukemia and myeloma cells in culture. The factor inhibits RNA synthesis and has a secondary effect on DNA synthesis and mitotic activity. It is probably a peptide or glycopeptide.