July

In a study of five patients with Burkitt's lymphoma, Gunvén and co-workers (Karolinska Institutet, Stockholm, Sweden) titrate antibodies to Epstein-Barr virus-associated antigens and herpes simplex, varicella, cytomegalovirus, measles and respiratory syncytial virus-associated antigens. Whereas neither cytostatic drug therapy with tumor regression nor inoculations of irradiated autochthonous tumor cells affect the titers, BCG injections increase the antibody titers to Epstein-Barr virus-associated antigens of the cell membrane by one to two log₂ units. After repeated BCG treatment, the antimembrane antigen titers return to pretreatment levels in four of five patients.

Vuillaume and de-Thé (International Agency for Research on Cancer, Lyon, France) describe the ultrastructure of nasopharyngeal carcinoma biopsy specimens cultured until lymphoblastoid transformation. The authors propose that close cellular contacts between lymphoid cells and both epithelial and fibroblastoid elements are essential for lymphoblastoid transformation. This transformation could result from the stimulation of a few lymphocytes with the herpesvirus Epstein-Barr genome present but inactive in the cultures. Permanent stimulation and thence establishment of long-term cultures would result if the lymphocytes were immunologically sensitive to a virus-coded antigen synthesized within the culture.

The effects of BCG vaccine on immunologic function in four patients with malignant melanoma are assessed by Chess and associates (Baltimore Cancer Research Center, Baltimore, Maryland). BCG augments antigen-induced incorporation of ³H-thymidine in three patients but does not affect responses to allogeneic lymphocytes or phytohemagglutinin. BCG also increases serum IgG levels in the same three patients. All patients convert their purified protein derivative skin-test reactivity from negative to positive during BCG therapy, and in two patients, candida skin reactivity appears. These effects are consistent with the hypothesis that BCG augments host responsiveness to antigens to which the host has previously been exposed.
In a 15-year survey (1955-1969) of esophageal cancer among the Bantu of the Transkei, South Africa, Rose (Bantu Cancer Registry, East London, South Africa) reports a marked increase of incidence rate—35 per 100,000 for males and 17 to 19 per 100,000 for females. Incidence varies among the 26 districts surveyed, ranging from 116 for males and 50 for females in the Butterworth area to three and two, respectively, in Bizana. Areas of high and low frequency of esophageal carcinoma are found in geographic proximity. Compared with other parts of the world, the incidence of this cancer in many Transkei districts is remarkably high.

Vánky and co-workers (Karolinska Institutet, Stockholm, Sweden) compare the capability of circulating blood lymphocytes (CBL) to be stimulated by autochthonous tumor cells with that of tumor-draining lymph node cells (LNC) in patients with sarcoma. In seven of 12 patients, autochthonous tumors stimulate DNA synthesis in CBL, but LNC do not react against the same tumor cells. LNC are stimulated to the same degree as CBL by phytohemagglutinin or allogeneic lymphocytes. The results demonstrate a tumor-specific nonreactivity to tumors by LNC draining large tumors. In an accompanying paper, the authors confirm that autochthonous sera inhibit the stimulating effect of sarcoma cells on the patients’ lymphocytes and that there is tumor-associated specificity in this inhibition.

Of nine young males with transitional cell carcinoma, Benton and Henderson (University of Southern California, Los Angeles, California) finds six with occupational and environmental histories of exposure to paints, solvents and chemicals.

Inhibition of human rhabdomyosarcoma cell growth by dibutyryl cyclic AMP is reported by Sandor (Children’s Hospital of Los Angeles, Los Angeles, California).

Waalkes and associates (National Cancer Institute, Bethesda, Maryland) determine an increased urinary excretion of $N^2, N^2$-dimethylguanosine, 1-methylinosine, and pseudouridine by cancer patients.
August

In a study of skin biopsies from four patients with porokeratosis Mibelli, Taylor and co-workers (University of Birmingham, Birmingham, England) report two patients with squamous cell carcinomas on some of the lesions. Fibroblasts are cultured from areas of the patients’ skin, and clones of cytogenetically abnormal cells are found in eight of 16 lines of fibroblasts from affected areas in two patients. No specific chromosomal abnormalities are common to all cell lines, and no unstable rearrangements are noted. The evidence suggests, in cultured cells from patients with porokeratosis Mibelli, a chromosomal instability associated with a predisposition to skin malignancies.

Twomey et al. (Veterans Administration Hospital, Houston, Texas), studying 12 patients with Hodgkin’s disease, find that irradiation leukocytes from seven do not stimulate $^3$H-thymidine incorporation by lymphocytes from healthy allogeneic donors. Poor leukocyte stimulation in the mixed leukocyte reaction is usually associated with rapidly progressive, therapeutically resistant Hodgkin’s disease.

Analyzing the Rye classification of Hodgkin’s disease, Coppleson and associates (University of Chicago, Chicago, Illinois) show that this classification gives more prognostic information than any histologic parameter alone. Analysis of cross-classification data indicates that knowledge of the lymphocyte frequency ameliorates the prognosis from the Rye classification by improving prediction in the nodular sclerosis and mixed cell classes. Benign histiocytes affect prognosis adversely. Sternberg-Reed cells have no effect, independent of malignant histiocytes, and eosinophils and plasma cells have no prognostic value.

Comparison by Henle et al. (Children’s Hospital of Philadelphia, Philadelphia, Pennsylvania) of patients with newly diagnosed nasopharyngeal carcinoma and long-term survivors reveals significant differences in serologic reactivities with Epstein-Barr-related antigens. Changes in the spectra and titers of antibodies to these antigens may be referable to preceding and succeeding clinical events and may serve to monitor the effectiveness of radiation therapy.