March/April

In a guest editorial, Epstein (University of Bristol Medical School, Bristol, England) suggests that sufficient evidence has been accumulated by investigators to incriminate Epstein-Barr virus (EBV) as a prime suspect for the role of human tumor virus. He believes that the time has come to establish direct proof of the involvement of EBV in the etiology of human cancer, and that the only way to resolve this problem is the development of an experimental vaccine. Epstein proposes a two-step vaccine program: (1) a small-scale pilot experiment to prove the relationship of EBV to African Burkitt’s lymphoma (BL); (2) a long-term project involving the wide-scale control of BL and nasopharyngeal carcinoma. The ethical objections, safety hazards and possible complications are discussed.

A large proportion of the world’s population acquires antibodies to Epstein-Barr virus (EBV) at an early age. Gottlieb-Stematsky et al. (Tel Aviv University, Tel Aviv, Israel) tested sera from 16 children (including 10 Arabs) with Burkitt’s lymphoma (BL), and from 11 children (eight Jews of Asian-African origin) with lymphoblastic lymphosarcoma (LLS). They compared their results with those from matched controls. Significantly higher antibody titers were found in the BL group than in the LLS patients and matched controls; the highest titers were in the Arab patients. No correlation was noted between the clinical course of patients with BL and antibody titers to EBV.

A case history of Burkitt’s lymphoma (BL) in a 14-year-old female Caucasian living in St. Louis, Missouri was reported by Gravell et al. (National Cancer Institute, Bethesda, Maryland). Examination of tumor tissue from this patient revealed Epstein-Barr virus (EBV) DNA. Such genetic information in BL tissue from American patients has not been detected previously by molecular hybridization techniques. A lymphoid cell line (NAB) containing the EBV genome was established from this tissue.

The epidemiologic features of 123 patients with Burkitt’s lymphoma (BL) in the Mengo Districts of Uganda during 1959-1968 were examined by Morrow et al. (Makerere University Medical School, Kampala, Uganda). Their results support the hypothesis that intense, prolonged malaria infection plays an important role in the etiology of BL. The incidence of this tumor in the Mengo Districts during the 10 years of the study declined markedly, and a decrease in severe malaria infection was also noted during this period. At the same time, a greatly increased amount of chloroquin,
an inexpensive, popular remedy for headache and fever, was distributed by government health facilities and private dispensaries. Evidence, which links malaria to the induction of BL, indicates that the relationship is with the host response to the prolonged infection, rather than with the parasitic infection itself. Thus, reduction of clinically severe malaria in children by the use of chloroquin could moderate the host response postulated to precipitate BL.

Scotto et al. (National Cancer Institute, Bethesda, Maryland) used tabulations from the Third National Cancer Survey, 1969-1971, to classify by site and histologic type the malignant melanomas diagnosed during this three-year period. Of the noncutaneous melanomas in 432 patients, 79 percent originated in the eye. These ocular tumors were more common in whites than blacks, and predominated in females at younger ages and males after middle age. Ocular melanoma differed from the cutaneous type in that no correlation was found with geographic latitude or exposure to sunlight. Few clues exist regarding the origin of ocular melanoma.

In a study of testicular cancer in 91 patients at 20 hospitals in San Francisco between 1956 and 1965, Mustacchi and Millmore (University of California and Children’s Hospital, San Francisco, California) found that the rate among non-whites was less than one-fifth of that among whites. This lower risk is not attributed entirely to genetic factors, since the risk gradient among whites was directly correlated with socioeconomic factors such as occupation and residential district. A positive association of testicular cancer with certain occupational groups was strong, both in incidence and age of onset. Professional men and those in managerial and skilled occupations, particularly policemen, were over-represented in the cancer group; the 35-44-year-old age group had the highest incidence rate.

In another study of cancer of the testis, Morrison (Walter Reed Army Institute of Research, Washington, D.C., and Harvard School of Public Health, Boston, Massachusetts) compared the risk of testicular cancer in persons with non descent of the testes and inguinal hernia. Medical histories were obtained from routine service records of 596 testicular cancer patients and 602 unaffected men in active service in the U.S. Army between 1950 and 1970. Testicular tumor and side of occurrence of undescended testis were closely related, and the risk was 8.8 times that of normal; 65 percent of these neoplasms were seminomas. However, the side on which a hernia occurred was unrelated to the side on which a testicular tumor developed.