Chapter 11

Index Tumors of Lymphatic and Hematopoietic Tissues

Population Studied. 4,234 males and 3,289 females with malignant neoplasms of the lymphatic and hematopoietic tissues were followed for the subsequent development of independent primary malignant neoplasms; 161 such subsequent neoplasms were diagnosed. The cohort of individuals with a malignancy of the lymphatic and hematopoietic tissues contributed 17,240 person-years of observation.

Results. Detailed tabulations by site are presented in Tables 104-109. The reader is referred to Chapter 5 for a general explanation of the items in these tables.

Summary of Findings. Site-group pairs with a statistically significant excess of observed-over-expected subsequent primary cancers are categorized in Table 110 on the basis of possible relationships between the anatomic sites containing these cancers. In addition, possible artifactual relationships, based on a small number of cases and with no confirmation from other published reports, are emphasized.

Discussion. Table 111 presents the common metastatic sites for cancers arising within the lymphatic and hematopoietic tissues. These data, used in conjunction with the site-specific tabulations of the percentage of multiple primary malignancies with histologic confirmation, are useful in distinguishing real from artifactual associations.

The majority of site-group pairs noted in Table 110 are classified in category I as likely being spurious associations. Although patients with such multiple primary cancers have been previously reported (MOERTEL, 1966; BERG, 1967; NEWELL et al., 1974a), there is no confirmation from other studies that these particular combinations occur more frequently than expected on the basis of chance. In most instances, the number of observed cases illustrating these various associations are relatively few. Furthermore, the liver and pancreas are common sites for leukemic infiltration; since 100% microscopic confirmation was lacking in patients with both leukemia and a malignancy of either the liver/gall bladder or pancreas, the relationship suggested may be spurious. One study reported an increased risk of lung cancer in black males with leukemia (NEWELL et al., 1974a). This might add support to the association between leukemia and cancer of other/unspecified respiratory organs seen in the Connecticut tabulations. This relationship is based on only one observed case, however.

An analysis of the Memorial Hospital experience revealed that patients with lymphoma, myeloma, or leukemia have an increased risk of prostatic cancer (BERG, 1967). As in the present series, however, the excess of prostatic cancer would result if 1) patients dying with lymphoma, myeloma, or leukemia came to autopsy more frequently than individuals dying...
with other diseases, and 2) clinically silent prostatic cancer was discovered at the time of the autopsy examination.

The association between leukemia and prostatic cancer is intriguing in that it is bidirectional. Despite this, the relationship may have no biologic basis. Not all patients with this combination of malignancies had histologic confirmation of both lesions, and it is possible that leukemic infiltration of the prostate may be mistaken for prostatic cancer. The excess risk of kidney/ureteral cancer in leukemia patients may likewise be spurious as it is based on only five observed cases. Although unconfirmed by other studies, the combination of leukemia and cancer of several sites within the male genito-urinary system appears a number of times in the Connecticut material.

The reader may have preferred a finer definition of tumor types within the lymphatic and hematopoietic tissues (e.g., chronic lymphatic leukemia, chronic myeloid leukemia, etc.). More detailed analyses such as these were carried out, but they provided no new insights into the associations reported nor did they reveal new relationships. In the interest of brevity, these tabulations were not included in the monograph.

Investigations of subsequent cancers occurring among patients with malignancies of the lymphatic and hematopoietic tissues have revealed an increased risk of skin cancer (BERG, 1967; NEWELL et al., 1974a). Skin cancers (with the exception of malignant melanoma) were not included in the analysis of the Connecticut data. Such lesions may be treated on an outpatient basis, and not be reported to the Connecticut Tumor Registry.

As shown in Chapter 4, several studies have suggested that chemotherapy, radiation therapy or immune defects in patients with lymphoma, myeloma, or leukemia may play a role in the later development of other cancers (ROSNER, 1976; HODGIN and WEBSTER, 1976). The Connecticut data, on which the present study is based, do not provide enough detail concerning treatment to allow one to test these hypotheses relating to chemotherapy.