

Many of the recent advances in our knowledge of anemic conditions have come from occupational and medicinal toxicology, dealing with such diverse conditions as chronic benzene poisoning, toxemia of amino- and nitro-derivatives of aromatic compounds, lead hazards, injuries resulting from exposure to roentgen-rays and radioactive substances, and similar industrially important and medicinally used agents (Lancet). Accumulative evidence, during late years, suggests the possibility of a similarly important rôle, which investigations of the occupational leukopoietic hyperplasias may play in regard to the elucidation of the causation and developmental mechanism of the cryptogenetic leukoblastoses and leukoblastomas. The urgent need of such studies is emphasized by reports concerning the sudden and rapid increase of leukemias during the last fifteen years.

Curschmann observed, in the university clinic in Rostock, that this disease, relatively rare (one case among 1,000 hospital patients) in former times, had become much more frequent since 1925. During the decade preceding 1925 approximately one to three cases of leukemia came under observation during one year in the clinic. After this date the number of leukemias admitted to the clinic rose to three to seven cases yearly. In addition to this absolute and (in the opinion of Curschmann) actual increase in the incidence of leukemias there occurred a remarkable shift in the type of leukemias observed. Since 1925, the acute variety of leukemia, formerly extraordinarily rare, became relatively common, representing more than 33 per cent of the total number of cases (eighty one) studied from 1925 to 1930. While Curschmann's analysis of the cases did not reveal any relation of this increase to some type of exogenous or endogenous factor (occupation, trauma, infection, tuberculosis, syphilis, malaria, and septicemia), there still remains, as the most probable explanation of this phenomenon, the supposition that some new undetermined exogenous factor or factors have been active in late years. It is less likely that the biological condition of the patient population of the clinic should have changed in such a radical fashion. This conclusion is supported by the fact, that during the same period a similarly spectacular increase of other blood dyscrasias, especially of the agranulocytic and aplastic anemic varieties, has taken place, which could be traced to certain types of aromatic compounds.

B. OCCUPATIONAL LEUKOBLASTOSES AND LEUKOBLASTOMAS

The various agents of occupational nature, which have been related etiologically to the occurrence of leukemoid, leukemic, and leukoblastomatous reactions, may be divided into two main groups, namely, those of more or less well-defined chemical (benzol, tar, and crude mineral oil) or physical (roentgen-rays and radioactive substances) character and those of nonspecific, mechanical-traumatic or traumatic-infectious type.