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SPECIAL ASPECTS OF OCCUPATIONAL TUMORS

ATTEMPTS have been made to establish certain general characteristics and attributes for occupational cancers (Carozzi; and Feil). It was pointed out by these investigators that 1. these neoplasms appear rarely unheralded, but are preceded almost always by constitutional changes (toxemia) or by precancerous lesions; 2. they most often affect the skin, less frequently internal organs (lung, bladder, and bones); 3. the majority of occupational cancers are epithelial tumors, while sarcomas are less frequent; 4. primary neoplastic multiplicity is relatively common and may be of concomitant or successive type; 5. they develop usually after a prolonged occupational exposure to certain agents, but appear often at an earlier age period than the corresponding tumors of unknown etiology; 6. several factors may be concerned in their causation, making it difficult to distinguish between a preliminary, irritative factor and a secondary, final, inciting factor of possibly endogenous nature; and to this list may be added, that 7. the overwhelming majority of industrial neoplasms is found in males. Although many professional cancers exhibit these attributes, they are not pathognomonic and therefore insufficient for differentiating between cancers of occupational and nonoccupational origin.

Certain aspects of neoplasia relating to age, life span, heredity, susceptibility of organs, individuals, races, species, sex, multiplicity, and cutaneous pigmentation are more clearly discernible in occupational tumors than they are in connection with the cryptogenetic type of cancerigenesis. While some reference has been made to most of these factors as part of the presentation of the individual occupational tumors, their general fundamental significance warrants a more comprehensive discussion.

I. AGE AND SPAN OF LIFE

It is an assertion frequently made that cancer is a disease of elderly individuals, representing a manifestation of biological retrogression and being similar in this respect to arteriosclerosis (Feyrter). Cellular senescence is thus considered to be a direct or at least contributory cause of malignant growth. The appearance of cancers before the senile period of life is regarded by the supporters of the senescence theory of cancerigenesis as the result of a local precocious pathological tissue senility occurring on the basis of a congenital constitutional predisposition (congenital cellular misplacements and malformations of embryonic cells) or being brought about artificially by the action