

·[VIII]·

OCCUPATIONAL AND ACCIDENTAL TUMORS OF THE EYE AND ITS ADNEXAE

THE formation of benign and malignant neoplasms of the eye and its adnexae (eyelids, lacrimal organ, conjunctiva, and orbital tissue) on the basis of normal occupational and accidental factors has found so far scanty attention, in spite of the fact that the eye and its associated organs are exposed readily and frequently to the effects of exogenous agents of various nature. Occupational carcinogenesis of the ocular organs is apparently not rare and deserves for this reason more consideration than it has received heretofore.

I. CHEMICAL AGENTS

A. INORGANIC CHEMICALS: ARSENIC

The occupational exposure to white arsenic and other arsenicals has given rise to the development of papillomatous warts and cancers of the eyelids in workers of various metallurgical and chemical operations (smelting and refining plants of arsenic, lead, copper, zinc, silver, and iron ores; and manufacture of arsenicals, such as emerald green, Paris green, and lead arsenate) (Hunter; and Kennaway). The contact with the arsenic or arsenical is usually in the form of dust, which settles on the exposed parts of the skin of these workers.

B. ORGANIC CHEMICALS (TAR, PITCH, CRUDE OIL, LUBRICATING OIL, AND PARAFFIN)

An excessively high incidence of ocular malignancy (3 to 4 times the normal ratio) was found to be present in workers exposed to tar, asphalt, pitch, mineral oils, and similar products, according to the statistical studies Lane conducted on a series of 1,000 cases of cancer of the eye and its adnexae, collected from 22 eye clinics in the United States and Canada, from private records of many eminent ophthalmologists, and from the medical services of large industrial plants producing chemicals, oils, carbon products, and gas, and from the automobile industry. The high incidence of these neoplasms among carpenters, observed by Lane, is attributed to their handling of creosoted shingles, and is not considered a result of frequent mechanical injuries sustained by members of this occupational group. These observations agree with similar ones recorded by American and European investigators (Martin; Legge; Hessberg and Bär; and Story).

Legge noted in a treatise on the epitheliomatous ulcerations in industry in