FILE NAME: Kent (KNT)

DATE: 1955

DOC#: KNT142

DOCUMENT DESCRIPTION: Book Excerpt - Tumors - Pathology

PATHOLOGY

BY

Peter A. Herbut, M.D.

Professor of Pathology, Jefferson Medical College and Director of Clinical Laboratories, Jefferson Medical College Hospital, Philadelphia, Pennsylvania

1378 Illustrations on 651 Figures and 6 Color Plates



Lea & Febiger

Philadelphia

1955

Hydrocarbons are important carcinogenic agents in man. Contact with tar, soot (chimney sweeps), pitch, asphalt, crude petroleum, shale oil, creosote oil, paraffin oil, lubricating and fuel oils, greases, anthracene, and other distillates produces cancer of the skin. Inhalation of tar dust and fumes is said (without definite proof) to produce carcinoma of the lung in man. Contact with tar and inhalation of tarry fumes may be the cause of, or at least have some effect on, cancer of the lip, tongue, oral cavity, and pharynx. Tarry combustion plays a role in cancer of the abdominal skin in Kangri users in Kashmir, in Kairo users in Japan, in Change users in China, and in Chutta users in India (last mentioned producing cancer of the hard palate from smoking cigars with lighted ends in the mouth). Dhoti cancer of the loin and groin results from friction of soot that accumulates in a loin cloth. Betel nut cancer of the oral cavity in India and the Philippines is due to the tobacco present, and Khaini cancer (of the lower lip) in northern India also occurs from tobacco mixed with lime that is placed between the lip and gum. Finally, contact with mineral oils produces "mule-spinners'" cancer.

Aromatic amines consist of azo compounds and aniline dyes. While the former have not yet proved to be carcinogenic in man, the latter are definitely known to produce cancer of the urinary system.

Carbon tetrachloride is a cause of cirrhosis and indirectly a cause of cancer in workers exposed to the chemical over prolonged periods.

Inorganic chemicals are less important as carcinogenic agents in man than are the organic compounds referred to above. *Arsenic* is in a doubtful category. Some workers maintain that topical contact with arsenic produces cancer of the skin while others maintain that such a causative relationship has not been proved. Used medicinally, however, there appears to be no doubt that it can cause both squamous and basal cell carcinoma of the skin. By some authors it is also said to cause cancer of the lung. *Chromium* may be a factor in the production of some cancers of the lung for statistics show that pulmonary carcinoma is at least four times as frequent among chromate workers as it is among the general population. Cancers of the nasal sinuses and lungs in workers in copper and nickel refineries in South Wales and in nickel mines in Sudbury (Canada) are more prevalent than they are in the general population. The *asbestos* (polymerized SiO_4) industry also is said to be attended by an increase of pulmonary carcinoma.

Dietary disturbances are unequivocal factors in the production of carcinoma in animals. They have as yet, however, to be proved of definite etiologic significance in man although certain deficiencies do appear to play a contributory role. An imbalanced diet in Sweden and Finland (short in green vegerables) predisposes to the Plummer-Vinson syndrome. This is attended by a hyperkeratosis of the mouth and pharynx and later carcinoma of the nasopharynx. Dietary deficiencies in the Bantus (an African Negro tribe) are attended by cirrhosis and high incidence of carcinoma of the liver. In this connection, Gillman fed rats the diet consumed by the Bantus and produced both cirrhosis and carcinoma. Cancer of the thyroid gland is more prevalent in districts with endemic goiter (due to iodine deficiency) than it is in nongoitcrous districts.

The role of *hormones* in the etiology of cancer is difficult to evaluate precisely but it is probable that hormones represent the most important single factor. It is certain that most deaths are due to cancer of endogenous origin. According to Spencer, "hormonal deficiency may set up internal