

of their contention these investigators pointed out that these tumors are more frequent on the fingers and hands than on the forearms and arms, and on the feet and ankles than on the rest of the extremity. The trauma eliciting such xanthomatous responses may be mild, chronic, or constant and, therefore, may not be properly appreciated. A traumatic history was present in 44 per cent of their series of 70 cases, 39 of which were housewives, while the rest were clerks, farmers, and laborers, that is, persons exposed to every day trauma. These blastomatoid formations are found somewhat more frequently in men (59 per cent) than in women (41 per cent). The knee joint is the most often affected joint (36 out of 41 cases) (De Santo and Wilson). Persons between 20 to 40 years of age are generally the most affected.

The xanthomatoid granulomas are composed of the typical lipoid-containing foam cells, a fibroblastic stroma, numerous capillaries, multinucleated giant cells, and varying amounts of a brown to yellow, intracellular, and occasionally extracellular, hematogenous pigment. The adjacent synovial tissue usually exhibits changes, such as seen in chronic hemorrhagic villous synovitis. Malignant transformations have not been observed.

#### D. SYNOVIOMAS

There exists a certain amount of clinical, circumstantial evidence connecting the formation of malignant synoviomas of the joint capsules and tendon sheaths with an antecedent trauma. Pack noted that a history of trauma which seemed to be authentic and adequate was related in almost every case of this type of neoplasm. Pack contended that the traumatic hemorrhage in connection with the reparatory processes, following the laceration of tendon sheaths and joint capsules, provides the essential basis for a progressive proliferation, resulting in true synovial tumors, usually of a malignant type. Illustrative cases of this kind of traumatic neoplasia were reported by Chiurco; and Schwarz.

### 7. OSSEOUS AND CARTILAGENOUS TISSUES

#### A. CHEMICAL AGENTS

Occupational neoplasms of the bone or cartilage caused by an industrial exposure to chemical agents, with the exception of the radioactive substances, are not on record. While there exist occupational contacts with certain chemicals (lead, fluorine, and phosphorus) which produce specific bony lesions, none of these result in the production of benign or malignant proliferative manifestations. They do cause changes in the chemical composition and structure of the bone (lead and fluorine), or elicit necrotizing reactions in the bone (phosphorus).

Experimental studies of recent years have shown, on the other hand, that bony tissue is capable of responding with the production of osteogenic sarcomas upon direct contact with synthetic carcinogenic chemicals, such as occur