

- 1002 Tests for Effect of Asbestos on Benzo(a) Pyrene. Carcinogenesis in the Respiratory Tract. L. Miller, W.E. Smith, and S.W. Berliner. *Ann. N.Y. Acad. Sci.* 132, 489-500 (Dec. 1965).

Time of appearance and yields of papillomas and carcinomas in the respiratory tract of hamsters after intratracheal injections of benzo(a) pyrene are reported. Addition of chrysotile variety of asbestos in the injections gave results consistent with an hypothesis that this material promoted benzo(a) pyrene carcinogenesis in the respiratory tract. Addition of the amosite variety of asbestos to injections of benzo(a) pyrene did not increase the yield of tumors found in the respiratory tract. Two experiments were carried out. All lesions recognized as tumors in gross specimens by examination at 7X with a dissecting microscope proved to be papillomas or carcinomas when studied in histological sections. Tabulation of tumors in the present report is restricted to those that were detected by examination of gross specimens and then confirmed in histological sections.

-- APCA Absts.

- 1003 The Occurrence of Pleural Calcification Among Asbestos Insulation Workers. I.J. Selikoff. *Ann. N.Y. Acad. Sci.* 132, 351-367 (Dec. 1965).

Roentgenographic study of 1,117 asbestos insulation workers showed pleural calcification to be a common finding, and 150 instances of such calcification were present. Data are presented which demonstrates that pleural calcification among workers exposed to asbestos in this trade rarely occurs in less than 20 years from onset to exposure. Pleural calcification was found in five of 725 asbestos insulation workers with less than 20 years from beginning work with asbestos. The pleural calcification is primarily found in the parietal pleura, more heavily, in the lower portions of the chest. Data concerning correlations with pleural fibrosis and asbestotic parenchymal fibrosis are given. Pleural calcification not infrequently is present in the absence of radiologically visible parenchymal fibrosis. The finding of calcification as described generally indicates asbestos exposure more than 20 years.

-- APCA Absts.

- 1004 The Sequelae of Exposure to Asbestos Dust. J.C. Wagner. *Ann. N.Y. Acad. Sci.* 132, 691-695 (Dec. 31, 1965).

The sequelae of exposure to asbestos dust, include its inhalation, deposition, and the results of subsequent retention. The actual type of asbestos dust to which an individual is exposed depends upon the environment in which he works or lives and his occupation. It is necessary to know the mineralogical variety of asbestos and its contaminants, whether they come from the mines, mills, method of transport, or additives used in industry. The preliminary results of several experiments in which tumors have been obtained in experimental animals have been presented. In these studies a variety of dusts were inoculated into animals of several species. The yield of tumors is high but the dose of intrapleural dust is very large compared with the amount present in man. Experiments show that standard dusts from the different types of asbestos are required to establish a base line. This applies to dusts from all animal experiments, chemical analyses, and other investigations.

-- APCA Absts.

- 1005 Clinical, Radiological, and Physiological Findings in Asbestosis. M. Kleinfeld, J. Messite, and J. Shapiro. *Arch. Internal Med.* 117, 813-819 (June, 1966).

Clinical, electrocardiographic, and physiological observations were made of 21 asbestos workers who had an average exposure to asbestos dust of 29.2 years and who had radiological findings compatible with asbestosis. Ten of the 21 workers had chronic cough, and seven evidenced exertional dyspnea. Basilar crepitations were found in eight, and six had clubbing. Electrocardiographic findings were abnormal in six but in none of these were the abnormalities consistent with the criteria of cor pulmonale. In eight individuals, the pulmonary infiltration was minimal, in nine it was moderate, and in four it was classified as severe. Varying degree of obliteration of the costophrenic sinuses was observed in 16 or cardiac borders in ten. Pleural calcification was observed in five. Two individuals showed emphysema which was localized. The abnormal lung function findings were consistent with a restrictive breathing and diffusion capacity impairment. This was characterized by low values in vital capacity (14 persons), in total lung capacity in (eight), and in diffusion capacity (13). The workers with dyspnea and lung crepitations had a significantly lower mean vital capacity and total lung capacity than those without these clinical findings. In addition, the group with pulmonary crepitations had a lower mean diffusion capacity for carbon monoxide (DL_{CO}). There was a poor correlation between clubbing and vital capacity, total lung capacity, and diffusion capacity. There was a weak correlation between these lung function parameters and the degree of pulmonary infiltration. When 16 of the 21 asbestos workers were compared with a group of 20 asbestos workers of similar age and duration of asbestos exposure, but having negative radiological findings, there were no significant differences in the clinical findings between the two groups. There was, however, a significantly lower vital capacity, total lung capacity, and diffusion capacity in the group with positive radiological signs as compared with the group with negative roentgenograms. There are ten references. -- Authors' summary