dust and kieselguhr dust produce no appreciable injurious action on the protoplasmic structure. Some minerals such as certain varieties of silica have a coagulating action on the protoplasm. A mass of particles may be surrounded by a cloud of coagulated protoplasm, not clearly defined When fragments of cells containing silica are phagocytosed, the cloud has a membrane. Calcite particles are contained in large vacuoles. Mica produces vacuolation but the particles lie outside the vacuoles. Further investigation is indicated into the capacity of the liberated waste of cellular proteolysis to provoke fibrosis. Investigation of the effects of mixed dusts is now being pursued. -- Cond. from Bull. Hyg.

461 The Investigation of Anti-Lung Antibodies in Silicosis. E. Kalman, A. Mandi and M. Osztovic Med. lavoro 53, 165-169 (Mar. 1962).

The authors have investigated the presence of anti-lung antibodies in the sera of 40 patients, in different stages of silicosis. Steffen's anti-human globulin consumption test has proved to be suitable for the demonstration of anti-lung antibodies. The authors have succeeded in demonstrating anti-lung antibodies in 82.5% of the silicotic sera investigated. It has been stated by the authors that these antibodies, isolated from the sera of silicotic patients by means of immunoelectrophoretic methods, have proved to be gamma- and beta-globulins. The latex fixation test was negative on the sera of silicotic patients. -- APCA Abstr.

462 Physiological Reactions of the Respiratory System Under the Influence of Dusts in Patients Suffering from Silicosis. B. Barbad and L. Petrescu. Arch. maladies profess. 23, 230-239 (1962).

A study was made of the phenomenon of diminution of respiratory amplitude when a subject passes from respiration in pure air to respiration in dust-containing air. It was found that, in parallel with the progression of the silicotic process toward more advanced stages, this phenomenon becomes more stable. This alteration is very constant and significant in patients suffering from third degree silicosis and controls. Another constant phenomenon is the increase in respiratory amplitude in silicotic patients as compared with controls. In the latter, the value of the ratio between duration of expiration and that of inspiration, when a subject passes from respiration in pure air to respiration in dust-containing air, presents a very distinct increase. In silicotics, this phenomenon, although present, is not stable and often even inverse reactions may be found. -- Public Health Eng. Abstr.

463 Experimental Production of Mesothelial Tumours of the Pleura by Implantation of Dusts in Laboratory Animals. J. C. Wagner. Nature 196, 180-181 (Oct. 13, 1962).

To find out if mesotheliomas can be produced experimentally, various forms of asbestos dust were injected into the pleural cavities of animals. Samples of the dusts of crocidolite, chrysotile and amosite were used along with those of silica and of carbon black as controls. Chemical analysis of these dusts showed that oils and 3,4-benzpyrene were found in crocidolite dust but only to a slight extent in amosite dust and not at all in the other dusts. In this investigation, 106 rats had died from various causes or were killed within 30 months after injection. Four developed mesothelioma, 7 adenoma of the breast and 8 reticulum-cell sarcoma. Adenoma of the breast and reticulum-cell sarcoma occur naturally in laboratory animals; mesotheliomas do not occur in the strain of rat used. Two of the rats exposed to crocidolite dust, one exposed to chrysotile dust and one to silica dust developed mesotheliomas. A further rat, dusted with chrysotile in another experiment was found to have mesothelioma. These tumors were histologically similar to those found in human patients and they showed also the presence of hyaluronic acid. The occurrence of mesotheliomas after injection with chrysotile and silica dusts has yet to be explained. The author is continuing his investigations of the association between mesothelioma and asbestos dust. -- Bull. Hyg.



IN THE ABRAMS November 1982

03121225

FOX004891