753 Silicosis Hazards in Enameling. A Medical, Technical, and Experimental Study. L. Friberg and H. Ohman. Brit. J. Ind. Med. 14, 85-91 (Apr. 1957).

Medical, technical, and experimental investigations of the silicosis hazards in a Swedish enameling shop employing 35 men are described. In the last 20 years six established and two suspected cases of silicosis have occurred. In three of the men the disease caused partial disablement. The most dangerous operations appeared to be the preparation of enamel powder and spraying ground-coat enamel on inner surfaces. The men were exposed to fairly high concentrations (mean values 10 to 75 million particles per cu. ft., impinger method) of a dust containing about 50% quartz. The dust displayed distinct fibrogenic potency in rats and had substantially the same effects as quartz. In other operations where the dust concentrations ranged from 9 to 16 mpcf, the quartz was present only in small amounts, it was difficult to determine whether there was a silicosis risk. Two of the enamels produced suspected silicotic lesions in rats. These two enamels, therefore, may be more toxic than their quartz contents indicated. Attention should be directed to the operations such as spraying of inner surfaces, in which relatively high dust concentrations occur.

-- Cond. from authors' summary

754 Radiologic Aspects and Meaning of the Involvement of the Pulmonary Circulation in Patients with Silicosis. R. Ghislanzoni and D. Zannini. Minerva med. 47, 1901-1910 (Dec. 8, 1956). Italian.

The roentgenologic findings in a group of 150 patients with silicosis and silicotuberculosis were studied and compared with the clinical and electrocardiographic findings. The pulmonary vessels stood out clearly and their shadow was different from that of the hilum and of the parenchyma. Ectasia, deformities, and blocking of the pulmonary vessels were noticed. These alterations are an early sign of involvement of the pulmonary circulation; they may appear even before the electrocardiographic and clinical signs of silicosis. The patient should be kept under observation when the radiologic findings are positive even though the electrocardiographic and clinical signs are negative. The cardiovascular system is already involved when the roentgenologic findings are positive and the other findings are suspected or uncertain.

-- J. Am. Med. Assn.

755 Biochemical-Biophysical Contribution on the Hyaline Tissue in Silicosis. E. C. Vigliani. Zentr. Arbeitsmed. Arbeitsschutz 6, 253-255 (Nov. 1956). German.

The author reviews published work conducted at the clinic for industrial medicine at Milan University and summarizes other literature on the constitution of the nodular and massive hyaline tissue in silicotic lungs. The Milan researches include chromatographic methods on the synthesis of the amino acids, spectrographic examination, the use of polarized light, chemical analyses, and biophysical research with x-ray spectrography. It was established that the hyaline tissue in silicosis differs from that of other origins. The latter type of hyaline tissue is composed almost altogether of collagen, whereas in the silicotic type collagen constitutes less than half of the total protein; the rest is globulin, chiefly beta-globulin. It seems that silicotic hyaline occupies a position between typical connective tissue hyaline and that of certain pathological tissue substances such as amyloid. Recent chemical researches have shown that amyloid is composed chiefly of beta- and alpha-globulin. Considering that the immuno-biological theory of the pathogenesis of amyloid tissues is supported by authoritative researches, the similarity of silicotic hyaline to amyloid is an argument of some value for the opinion that in the development of silicosis antigen-antibody reactions are also of importance.

-- Cond. from Bull. Hyg.

756 Electron Microscope Studies of the Structure of the Walls of the Alveoli of the Lungs. N. Dettmer. Beitr. Silikose-Forsch. No. 45, 17-42 (1956). German.

The examinations were carried out on the lung of mouse, rat, and horse, fixed immediately after the animal was killed, and treated with 1% osmic acid by procedures which are described. The magnifications varied from 15,000 to 30,000. The examinations showed a continuous cytoplastic layer spread over the whole alveolar surface. This layer was so thin, especially over the capillaries, that it was beyond the power of resolution of

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