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- English

ther need for study along the lines of prevention of this disease.—C. K. D.

PULMONARY ASBESTOSIS. *E. Krüger, Rostoski, and Saupe. Abstr. from Arch. f. Gewerbepath. u. Gewerbehyg., 1931, vol. 2, pp. 558-590, in Bull. Hyg., Dec., 1931, vol. 6, pp. 861-862.*

After an exhaustive survey of the work on pulmonary asbestosis in other countries, the authors give an account of the work done in Germany together with a short record of cases of the disease which have come under their own observation in Dresden.

The first record in Germany was a demonstration by Fahr to the Medical Society of Hamburg in 1914 of specimens and photomicrographs of a case of pneumonokoniosis in an asbestos worker. Fahr mentioned the occurrence of a large number of crystals in the lung but did not describe them more closely. He stated, however, that they had been seen by Marchand and Riesel in 1906, who had speculated as to whether they were due to the inhalation of asbestos dust or were a hemoglobin derivative. In 1931 Büttner-Wobst and Trillitzsch described nine cases occurring in two asbestos factories near Dresden. Meanwhile the authors of the present paper had begun to collect cases. They have now examined fifty-two (eighteen male and thirty-four female) workers, of whom thirty showed definite lung changes. A short analysis of the history of these cases is given. The longest exposure to the dust was thirty-one years in a worker aged 60.

The commonest initial complaint was dyspnea. Cough occurred in 43 cases. Night sweats were recorded in 12 cases. Abdominal complaints were rare but loss of

weight in the late stages was found in 15 instances with rheumatic pains, headache, and general nervous symptoms. Among the 34 female cases abortions were recorded in 10. Conjunctivitis was found in 16. Pharyngeal symptoms were not infrequent. Enlargement of the thyroid was seen on 6 occasions, with definite Basedow symptoms in 5. There were 4 cases of kyphosis and 4 of scoliosis.

The pulmonary signs were as follows: The respiratory excursion was diminished. In 16 cases there were alterations in percussion note on auscultation at the apex, while in the rest diminished breath sounds with fine râles, etc., were more marked in the lower lobes. In some cases there was also evidence of pleural thickening. Sputum was present in 28, 12 showing asbestos fibers and 8 asbestosis bodies; there was no blood, and no tubercle bacilli or elastic fibers could be found. Cardiac enlargement was noted in 3 instances, 1 case displayed an aortic systolic bruit and 6 a mitral bruit, but they were apparently compensated lesions. The blood pressure was never below 100 and in 8 cases was between 150 and 170 mm. The hemoglobin in 2 cases fell to between 60 and 70 per cent., and in 14 others was between 70 and 80 per cent. Clubbing of the fingers was noted only once. The urine was frequently alkaline or neutral (20 instances); traces of albumin were noted in 18 cases. A strong urobilinogen reaction (red coloration with benzaldehyde in the cold) was obtained.

For X-ray films the following exposure data are given: focus film distance 1.5 m., 300 m.A., 45 KV, 0.05 to 0.08 seconds. Especial emphasis is laid on the importance of short exposure. Three stages in the development of the radiologic picture are defined: (1) an increase of the normal lung striation with the appearance of a fine network often difficult to determine except by a long series of films; (2) a thicker network with delicate sharply defined spots of opacity (*Fleckenschatten*); (3) an intensification of this network to

form a shadow lung. The are most marked in the lower lobe and the shadow becomes more distinct in the later stage. The affected lung shows a large enlargement of the infraclavicular space and there is an increase such as in silicosis, fibrosis, or obsolete tuberculosis (primary or secondary) were general foci and marked in other forms. Signs of old

Four stages have been given showing the development of asbestosis. The type of work in which the conclusion is that asbestosis takes the form of a shadow lung. O had had 1 none were In correlation with different types of asbestos fac point out small for be drawn cases were twining (many of stages 1, (see X-ray films and

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form a shadowy veil covering the lung. The signs begin to appear and are most marked in the midzone and lower lobe areas of the radiologic picture. The contour of the heart shadow became ill defined in the second stage. The root shadows were not affected in this stage but showed enlargement in the third stage. The infraclavicular areas remained clear and there was no "snowstorm" appearance such as characterizes the typical silicosis film. In six cases signs of obsolete tuberculosis were recognized (primary complex). Tuberculous foci were generally thicker than asbestosis foci and more easily distinguished than in other forms of pneumokoniosis. Signs of old pleurisy were frequent.

Four short statistical tables are given showing the relationship of the asbestosis to the period of exposure, type of work, etc. The general conclusion is that moderately severe asbestosis takes about five years to develop. Of the workers examined who had had ten years' or more exposure none were free from signs of the disease. In correlating their findings with the different types of work in the two asbestos factories concerned the authors point out that the numbers are too small for very definite conclusions to be drawn. The four most advanced cases were found in the spinning and twining (*Zwirner*) sections. A summary of fifteen cases classified into stages 1, 2, and 3 of the disease is given (see X-ray findings). Several radiograms are reproduced.—S. R. G.

THE NEED FOR DUST-PREVENTION MEASURES IN THE COAL INDUSTRY. *Proc. So. Wales Inst. Eng., 1932, vol. 47, no. 5, pp. 729-743.*

Attention is drawn to the work recently done upon the pathologic condition of the lungs of coal miners, brought about by the inhalation of dust during their work. Undoubtedly a great development of fibrous tissue is found in the lungs. In certain cases coal dust is collected in the fibrotic tissue to such an extent as to justify the condition being called silico-anthracosis. Such lungs do not appear to succumb readily to tuberculous infection; possibly this is due to the fact that the adsorbing power of the coal dust renders inert the toxic principle of tuberculin. Where the silicotic condition is paramount, as in hard heading workers, the tendency to tuberculous infection is on all fours with that found among gold miners. Coal miners' lung is not normal; the miner suffers from breathlessness and dyspnea, with a high death rate in late life from bronchitis. The causation of such trouble is dust; and every possible precaution should be taken to minimize its presence in the air.—E. L. C.

HISTOCHEMICAL RESEARCH ON THE INITIAL LESIONS OF EXPERIMENTAL PULMONARY SILICOSIS. *A. Policard. Compt. rend. Acad. d. sc., July 20, 1931, pp. 197-199.*

Cellular masses containing silica particles, called plaques, appear in animals exposed to the inhalation of silica dust; rats were used. These plaques are accumulations in alveoli of cells—dust cells—arising from the pulmonary stroma, loaded with mineral particles. The size of the plaques is limited by that of the alveoli from which they cannot escape. They have a high mineral content, due to silica in an organic combination which