

in the capillary surface. In the evaluation of large numbers of cases, although not in individual cases, there is a certain parallel between the radiographic changes and the severity of functional disturbances. The examination of lung function, especially by work tests, gives an objective criterion for assessment of incapacity, so that remedies may be applied, varying from removal from exposure to inhalation therapy and cardiac treatment, according to the stage of silicosis. In countries where silicosis is compensable as a disease, the system leads to late diagnosis depending on x-ray examination, when severe functional disturbances have already occurred. In Switzerland silicosis is compensable, not as a disease, but only through resulting incapacity for work; this leads to early diagnosis and exclusion of the patients from exposure. In early diagnosis the investigation of respiratory function is highly important. Hence the aim is to distinguish the limits of disturbances of function due to silicosis from those due to accompanying diseases. The basis of all research on respiratory function is spirometry and analysis of the gases in the arterial blood. The technique used in the investigations is described. A classification is given of the different disturbances of lung function and these are discussed very thoroughly. Assessment of capacity for work is made on the results of functional tests. Limiting criteria for this assessment are given. A study of 46 silicotic workers showed that, after at least four years' freedom from dust exposure, radiographic appearances had not changed for the worse in more than half of the patients, and in about half lung function and capacity for work were either improved or maintained. -- Cond. from Bull. Hyg.

- 248 Investigations on Breathing Capacity in Silicosis by Means of Oximetry During Work. E. Sartorelli and Eleonora Giorgi. *Med. lavoro* 45, 600-607 (Nov. 1954). Italian.

The procedure used in oximetry is described and results in 30 persons, normal and silicotic, are presented. In all the seven cases with silicosis in various forms, anoxemia appeared for lighter work-loads than in normal cases of the same age. The onset of severe anoxemia was noted even during light work-loads in two cases of nodular silicosis with severe emphysema and chronic cor pulmonale. Oximetry during work, as proved by the results obtained, is a method of undoubted practical utility for the study of the respiratory function. Compared with other methods by which the behavior of blood oxygen saturation is studied only indirectly, oximetry during work presents the following advantages: (1) the appearance of anoxemia is recorded directly; (2) the research is very rapid; and (3) the examination is better tolerated by the patients, because during work they are allowed to breathe freely without the use of a mouthpiece or a mask.

-- Cond. from English summary (Bull. Hyg.)

- 249 The Reaction of Middlebrook-Dubos in Silicosis and Silicotuberculosis among Coal Miners. J. Pignot. *Arch. belges med. sociale, hyg.* 13, 17-25 (Jan. 1955). French.

The reaction of Middlebrook-Dubos is concerned with the agglutination of red cells sensitized with tuberculin, by serum dilutions of 1 in 16 or more. Certain modifications, fully explained, were used in a study of 82 silicotic coal miners, of whom 18 were tuberculous, and 16 with tuberculosis without pneumoconiosis. Positivity of the reaction was found to depend upon the presence of tuberculosis rather than silicosis. The low proportion of positive reactions in advanced silicosis does not support the widely accepted claim that the passage from isolated nodules to more advanced confluent silicosis depends upon a superimposed tuberculous infection. The reaction may thus contribute evidence in the differential diagnosis between miliary tuberculosis and micronodular silicosis. -- Cond. from Bull. Hyg.

- 250 Carcinoma of the Lung in Asbestosis: Report of Two Additional Cases. K. H. Lynch and H. R. Pratt-Thomas. *Southern Med. J.* 48, 565-568 (June 1955).

The evidence of correlation between the occurrence of asbestosis and of lung cancer is collected. No such correlation has been found with other forms of pneumoconiosis like silicosis and anthracosis, or pulmonary tuberculosis. The pathology of asbestosis is abnormal; it seems to be due to traumatism between large particles of asbestos, too large to penetrate into the alveoli, and the pulmonary tissues, while other pneumoconioses present reactions between minute particles and the living tissues. Further, no efforts to induce lung cancers in animals exposed to asbestos dust have been successful. Nevertheless, the statistical evidence is strong. Two additional cases of lung cancer associated with