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BUREAU OF HYGIENE & TROPICAL DISEASES

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and Blood Oxyhaemoglobin Saturation in Respiratory Failure due to Pulmonary Silicosis] *Med. d. Lavoro.* 1961, June–July, v. 52, Nos. 6/7, 406–19, 3 figs. [Numerous refs.]

The English summary appended to the paper is as follows:—

"The relation between E.C.G. reports and arterial oxygen saturation has been investigated in 33 patients with chronic lung disease (pulmonary silicosis), presenting a severe degree of respiratory failure.

"The following points were noted:

"1) only a few single E.C.G. signs of chronic cor pulmonale show a good correlation with oxyhaemoglobin saturation, that is the voltage of the P wave in D_2, right axis deviation of the QRS complex, alterations in the final ventricular complexes in the right precordial leads.

"2) The highest level of correlation was found between the degree of severity of the hypoxia and the total E.C.G. 'value', the latter being determined by the total number of E.C.G. signs indicative or pathognomonic of cor pulmonale, found in each tracing.

"3) A good correlation between E.C.G. and arterial oxygen saturation can be easily explained if one remembers that hypoxia is at the root of the haemodynamic alterations (pulmonary hypertension, raised resistance) of the pulmonary circulation; moreover arterial desaturation can certainly favour the appearance of signs of right ventricular strain.

"4) On the whole the order of appearance of E.C.G. signs in cor pulmonale is confirmed to be the following: modifications of the electric axis due at first to positional factors and later to right ventricular hypertrophy and dilatation; alterations in the final ventricular complexes; direct signs of ventricular hypertrophy in the right precordial leads."

ZISLIN, D. M. **[Clinical Study of Silico-Tuberculosis]** *Gigiena Truda i Professional'nye Zabolevaniya.* Moscow. 1961, v. 5, No. 9, 58–64. [20 refs.] [In Russian.] English summary (5 lines).

The presence of a single large shadow on the X-ray of a worker exposed to silica dust, in the absence of a classical picture of silicosis, might be due to silicosis—nodules present in the lung fields being too small to show by X-ray. "Latterly, with the development of thoracic surgery, the number of such observations has considerably increased."

A study was made of 18 patients with "isolated conglomerates", round or oval in appearance, 2–8 cm. across and usually in the upper part of the right lung. The clarity of outline depended on the stage of the process. "In the remaining parts of the lung fields there was a diffuse silicosis with discrete nodular formation." During the development of the "conglomerate" the patient was in a relatively good state with normal body temperature, normal blood picture and no special changes were found on clinical examination or investigation of the functional state of the respiratory and cardiovascular systems. This phase might last from 4–6 years before a deterioration so sudden, that not infrequently the patient could name the date from which he felt ill. This was generally accompanied by rigors, malaise, cough and increasing shortness of breath. The breath sounds were found to be moist and crepitating in some cases, but in others the physical signs were normal. On radiology the "conglomerate" was found to be increased, the clarity of its outline broken and there appeared a fine shadow leading to the lung root. Not infrequently, cavitation occurred. On examination of the sputum tubercle bacteria were frequently and readily detected.

Was the tuberculosis an early factor leading to the "conglomeration" or did the silicotic tissue provide a favourable medium for the organisms? It is claimed that careful clinical study revealed that long before the acute manifestations of the tuberculous infection there were periods of general debility, fatigue, sweating and other symptoms. These were either not noticed or were not unnaturally attributed by the patient and the doctor to everyday infections. On occasions, while there was little clinical evidence of a change in the condition, this could be observed in serial X-rays, showing as an increase in size of the shadow, change in its shape with "lateral offshoots" and the appearance of smaller nodes in the vicinity of the "conglomerate". Subsequently a cavity appeared. Thus the forerunner of an outbreak of tuberculosis [the second, "acute" phase] is either a rapid progression of the conglomerative fibrosis or the appearance of mild symptoms of intoxication, or both together. Inoculation of guineapigs with the sputum of patients with "conglomerate" but with few symptoms of toxaemia, was positive in 11 out of 13 cases. Similar findings were made with lymph gland inoculation.

It is suggested that these findings could modify the therapeutic approach to this condition of "solitary conglomerate silicosis", for by the time the phase of acute progression has been reached the disease is resistant to treatment.

In 53 cases in which sections were made, peripheral lung cancer was found in 3 and "we gathered the impression that conglomerate is precancerous".

There follows a discussion on the appropriateness of the terminology used, with differing emphasis being put on either the tuberculous or silicotic factor. The condition described as "conglomerate" (or silicotuberculoma) differs from tuberculoma by the presence of silicotic tissue, blockage of the lymphatic passages in the lung segment which has the "conglomerate" and the absence of the specific endobronchitis characteristic of tuberculoma. [There are unfortunately no individual details of case histories.]

[See also this *Bulletin*, 1961, v. 36, 1236.] *W. R. Lee*

BOHLIG, H., JACOB, G. & MÜLLER, H. Zur Problematik des Dispositionsfaktors bei Asbestose. **[The Constitutional Factor in Asbestosis]** *Arch. f. Gewerbepath. u. Gewerbehyg.* 1961, v. 18, No. 6, 596–607, 4 figs. [Numerous refs.]

The possibility of individual, family or racially conditioned susceptibility to certain diseases has long been discussed. It has also been considered in relation to silicosis in a number of papers [this *Bulletin*, 1955, v. 36, 378] which are mentioned and discussed in the present paper. In asbestosis, however, because of there being

siderably fewer industrial concerns in which asbestos is a risk, the literature is scantier than that of silicosis very few instances of asbestosis among members of ame family have been reported.

here are given here detailed family histories and clini- particulars of members of 3 families—2 brothers in of 2 families and 2 sisters in 1 family—all of whom red from the effects of exposure to asbestos in the e of their employments. In addition there is a ption with many references of the morbidity of stosis and its relation to length of period of exposure bestos dust at work.

e records of the 6 patients in all of whom X-ray ination showed definite asbestosis were:— (1) 2 hers died after 18 to 25 years' exposure to asbestos, bronchial carcinoma and the other of a pleural ur; (2) 2 sisters after 32 to 35 years' exposure were aged 84 and 82 years, but had shortness of breath bronchial catarrh; and (3) 2 brothers had only 3–4 exposure to asbestos and were alive at over 62 of age. Both of them suffered from some shortness eath and cough.

this evidence the opinion expressed is that personal stitution plays no part in susceptibility to asbestosis loes influence the progress of the condition.

M. E. Delafield

ovic, L. Industrijski otrovi i kardiovaskularni stem. [**Industrial Poisons and the Cardiovascular System**] *Bull. Inst. Hyg.* Belgrade. 1961, July–Dec., v. 10, Nos. 3/4, 29–39. [16 refs.] English summary.

ovic, L. & Popovic, S. Prilog poznavanju alergije od radnika pri radu sa olovnim oksidom i olovnim ulfidom. [**A Contribution to the Knowledge of Allergy among Workers with Lead Oxide and Lead Sulphide**] *Bull. Inst. Hyg.* Belgrade. 1961, July-Dec., v. 10, Nos. 3/4, 21–4.

e English summary appended to the paper is as as:—

The allergy was investigated among the workers of d smeltery. For this, 441 workers were examined, d in four groups, according to their working places, e anamnesis (anamnesis=recollection of a pre- existence) and exposure to dust.

On the ground of clinical examination and skin tests d out by standard and specific allergens it has been shed, that the dust containing lead oxide or lead ide is not the cause of allergy. This dust also does ct as a favouring factor for allergic sensibilisation."

s, T. S. **Lead Intoxication in the Surgical Wards.** *Scottish Med. J.* Glasgow. 1962, Jan., v. 7, No. 1, 6–41.

Twenty-five cases of lead poisoning presented with e abdominal symptoms: twelve were admitted under e care of a surgeon and six had a negative laparotomy. Some features of the clinical picture are discussed. It is considered that the correct diagnosis will usually be made if the condition is remembered."

Stankovic, D. Slučaj hroničnog saturnizma sa akutno cikličkim tokom posle uzimanja velike količine alkohola. [**A Case of Chronic Saturnism with Acute Cyclic Development after the Intake of Large Quantities of Alcohol**] *Bull. Inst. Hyg.* Belgrade. 1961, July-Dec., v. 10. Nos. 3/4, 41–8, 4 figs. [10 refs.] French summary.

Kleinfeld, M., Messite, J., Kooyman, O. & Goldwater, L. J. **Fingernail Cystine Content in Chronic Mercury Exposure.** *Arch. Environment. Health.* Chicago. 1961, Dec., v. 3, No. 6, 676–9.

"The effect of chronic occupational exposure to mercury on the cystine level of the fingernails was studied. Based on the available environmental data, the workers were divided into 3 groups; a control, a minimally exposed, and a moderately exposed group. A good correlation was noted between the degree of exposure and the urinary excretion of mercury. However, there were no significant differences in the cystine content of the fingernails between the 3 groups. The results of this study indicate that mercury, in the range of exposure encountered, does not affect the metabolic pathway involving the conversion of methionine to cystine."

Samitz, M. H., Gross, S. & Flesch, P. **Studies of the Concentrations of Chromium Salts in the Skin of Guinea Pigs.** *J. Occup. Med.* Chicago. 1961, Dec., v. 3, No. 12. 591–2.

"There was no evidence of epidermal sensitivity on challenge testing in animals treated with 0·5% potassium dichromate in combination with sodium lauryl sulfate. Although a 5% potassium dichromate solution in combination with sodium lauryl sulfate produced marked irritation, sensitivity was not demonstrated. These results confirm our previous findings.

"Deposition of hexavalent and trivalent chromium solutions in the skin was obtained by tattooing. Spectrographic analyses of biopsy sections did not show any significant difference in the absorption of two types of chromium compounds. After one week, little of either compound remained in the skin."

[See also this *Bulletin*, 1959, v. 34, 463.]

Sunderman, F. W., Range, C. L., Sunderman, F. W., Jr., Donnelly, A. J. & Lucyszyn, G. W. **Nickel Poisoning. XII. Metabolic and Pathologic Changes in Acute Pneumonitis from Nickel Carbonyl.** *Amer. J. Clin. Path.* 1961, Dec., v. 36. No. 6, 477–91, 10 figs. [42 refs.]

Each day for a week X-ray examinations of the chest and investigations on blood, serum and urine were made