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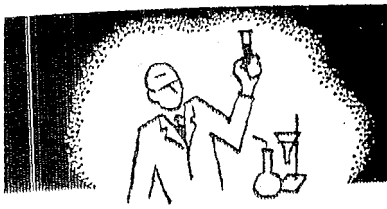


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INDUSTRIAL HEALTH



Abstracts of current literature on Industrial Hygiene, Medicine, and Nursing

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Pneumoconiosis

Infective Pneumoconiosis I. "The Influence of Dead Tubercle Bacili (BCG) on the Dust Lesions Produced by Anthracites, Coal Mine Dust, and Kaolin in the Lungs of rats and Guinea Pigs," by Daphne Attuygalle, C. V. Harrison, E. J. King and G. P. Mohanty. The British Journal of Industrial Medicine 11:245-259 (October, 1954).

A CLOSE ASSOCIATION between silicosis and tubercular infection has long been known and it has been recognized that the tubercle bacili proliferates readily and rapidly in the silicotic lung. It also has been known that the introduction of silica to a healed tubercular focus is apt to reactivate the tubercular disease. This is a function of the silica present, since the tuberculosis organisms do not show unusual growth in lesions produced by substances such as iron, carbon and aluminum.

In this study, heat killed tuberculosis organisms (BCG vaccine) were injected into rats and guinea pigs together with various types of mine dust and the animals were periodically killed and the lesions studied for periods up to 500 days for the rats and up to 365 days for the guinea pigs.

In spite of the fact that guinea pigs are known to be considerably more susceptible to tuberculosis than are rats, the lesions produced in the two species were similar.

The vaccine alone produced mild lung lesions which appeared after 30 days and persisted throughout the experiments although the lesions were regressing toward the end of the experiment.

Anthracite coal mine dust did not produce any fibrosis by itself. Mixed with the BCG vaccine, it produced a definite fibrosis which reached its maximum in rats after a year and in guinea pigs after 240 days and thereafter the lesions were partly absorbed.

The reaction with kaolin and BCG was more marked in rats than it was in guinea pigs. The maximum fibrosis was reached after 180 days and the lesions diminished after that period.

Nutrition in Industry

Nutritional Status of Industrial Workers. 1. Dietary, Blood and Physical Findings. By M. J. Babcock, Helen N. Church, and Lorraine O. Gates. The Millbank Memorial Fund Quarterly 32:322-342 (October 1954).

INFORMATION in this report was gathered during a period from December 1948 to November 1950, inclusive, on 610 men employed in four chemical and pharmaceutical plants in Central New Jersey. They were recruited for the study as they reported to the plant dispensaries for routine physical examinations.

The study included a record of food intake, timed by a 30-minute interview with each subject by a trained nutritionist, a seven day record of actual food consumption kept by each subject (this was completed by 318 of the individuals) an analysis of the blood for hemoglobin and of the serum for carotene, vitamin A, and ascorbic acid, and a physical inspection by a physician for signs of nutritional deficiencies.

Supplementary nutrients taken in tablets or pills were not included in the calculation of the dietary data but were tabulated separately if the quantity consumed in the supplement was more than 20 per cent of the recommended daily allowance for any of the five vitamins.

The sample studied was all men and contained a very large proportion from 20 to 40 years of age. The incomes and educational levels were distributed over a very wide range. The religious affiliation was approximately equally divided between Catholic and Protestant and the food habits of one-third approximately were influenced by a Slavic background. Smaller fractions were influenced by Negro, Italian and German customs.

The estimates of dietary intakes obtained from the interview were considerably higher than those obtained from the actual record of consumption. From the evidence available, the investigators feel that there were some omissions in the seven day record and some over-estimates in the histories, and the actual values fall somewhere between the two estimates. For the men who both kept the record and gave interviews the errors were small except for estimates of calcium, phosphorus, thiamine and riboflavin.

The dietary, blood, and physical findings were generally in agreement in showing that the nutritional status was below optimum for 20 per cent to 30 per cent of the subjects in most of the nutrients studied. When the amount of each of the five vitamins taken was summarized by giving a score of three to a high quantity, two to a moderate quantity and one to a low quantity and these were averaged it was found that one-fourth of the subjects had less than the optimum amount of vitamins over-all.

It should be noted that these

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