

related to chronic anoxemia. No relationship was demonstrated between cardiac output or arteriovenous oxygen difference, and arterial oxygen saturation. A previous survey failed to show satisfactory evidence that a hypercirculatory state exists in cor pulmonale due to emphysema. The occasional occurrence of high cardiac output in cor pulmonale can be satisfactorily explained by elevated oxygen consumption due to increased respiratory effort and bronchial infection.

-- J. Am. Med. Assn. References & Reviews

- 342 Physical Exercise in Breathless Subjects with Pulmonary Emphysema, Including a Discussion on Cigarette Smoking. A.L. Barach. Diseases of Chest 45, 113-128 (Feb. 1964).

Breathlessness on exertion limits the physical activity of patients with severe pulmonary emphysema to such an extent as to result in physical unfitness and muscle atrophy. Oxygen inhalation during a graded exercise program overcomes this handicap in some cases. In many others, restoration of diaphragmatic function during walking is required even with the use of oxygen. The technique of breathing training required for effective use of oxygen supported exercise is described. Elimination of a disordered breathing pattern in patients with obstructive pulmonary emphysema is shown to result in a more efficient alveolar ventilation, and a consequent increase in the capacity for exertion. Case histories of two patients with pulmonary emphysema are presented: in one, the oxygen supported exercise program resulted in increased exercise capacity associated with the development of physical fitness; in the other, a marked enhancement of exercise capacity took place as a result of mechanisms apparently similar to an athletic training process. A technique of nonirritant cigarette smoking is described. If tobacco smoke does not enter the lungs, the question is propounded: is there justification for an adamant position in respect to rejection of cigarette smoking? The study of methods of smoking without inhaling deserves more consideration than it has received.

-- Author's summary

- 343 Genetic Bases of Susceptibility and Resistance to Toxic Agents. H. Brieger. J. Occ. Med. 5, 511-515 (Nov. 1963).

This report, like that given by Mountain (Arch. Environmental Health 6, 357 (1963)) suggests new lines of research. In addition to the fact of great theoretical interest, certain practical procedures to prevent occupational disease in individuals with genetic defects appear feasible. In pre-employment examinations, special consideration has to be given to the medical and racial history of the family. A simple method for the detection of erythrocytic glucose-6-phosphate dehydrogenase deficiency has been developed by Fairbanks and Beutler (Blood 20, 591 (1962)). Conventional hematologic procedures remain of value for the diagnosis of the hemoglobinopathies, especially if some simple tests (osmotic fragility, reticulocyte count, examination for sickle cells, and determination of urinary and serum bilirubin) are added. Tests for inclusion and Heinz bodies and siderocytes are only slightly more complicated. Paper electrophoresis of hemoglobin and quantitation of alkali-resistant hemoglobin require highly specialized techniques. Mountain has recommended a modified methemoglobin reduction test for the detection of hypersensitive thalassemic individuals. It is by no means intended to include the special procedures in the general program of pre-employment or periodic health examinations; their use, however, is certainly indicated in industries with specific hazards to genetically defective systems. If possible, both parents and siblings should be examined in suspicious cases. In following these recommendations, industrial medicine will not only improve the practice of preventive medicine but also contribute to the knowledge of this fascinating subject.

-- Author's conclusions

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