

rate and tidal volume. However, no remarkable change in intrapulmonary distribution of inspired gas occurred when respiratory pattern or inspiratory flow rate was changed passively during artificial ventilation or IPPB. It is possible that the lung is subjected to different stress patterns during active ventilation and passive filling of the lung. (Young, A. C., Martin, C. J., and Hashimoto, T.: *Can the Distribution of Inspired Gas be Altered?*, *J. Appl. Physiol.* 24: 129 (Feb.) 1968.)

ABSTRACTOR'S NOTE: This is further evidence that inspiratory flow rate and respiratory pattern are not important determinants of intrapulmonary distribution of inspired gas during anesthesia and artificial ventilation.

BLOOD GASES IN ASTHMA Arterial O_2 and CO_2 tensions, pH and forced expiratory volumes were measured in 101 asthmatic patients during acute attacks of bronchospasm. Hypoxemia in 91 of the subjects was found to be caused by an alteration in ventilation-perfusion ratios. In some patients with very severe airway obstruction, alveolar hypoventilation and increased venous blood admixture were found to contribute to the hypoxemia. Hypocarbica and respiratory alkalosis were present in 73 patients. CO_2 retention occurred only at extreme degrees of obstruction. Age, history and asthma, and duration of the acute attack were unrelated to the alterations in blood gas tensions, pH or severity of airway obstruction. (McFadden, E. R., Jr., and Lyons, H. A.: *Arterial-blood Gas Tensions in Asthma*, *New Engl. J. Med.* 278: 1027 (May) 1968.)

PULMONARY FUNCTION Correlations between spirometric studies and studies of pulmonary mechanics were made with 20 asthmatic and 15 emphysematous patients as subjects. In emphysema, a significant correlation was found between the one-second forced expiratory volume and expiratory airway resistance and expiratory resistive work. In asthmatic subjects, the forced expiratory volume was related to lung compliance, the sum of elastic and expiratory resistive work. The vital capacity was also found to be re-

lated to lung compliance. (Lynne-Davies, P., and others: *Comparative Studies of Lung Function in Airway Obstruction*, *Amer. Rev. Resp. Dis.* 97: 610 (April) 1968.)

BAGASSE WORKER'S LUNG Seven patients who developed bagasse worker's lung were found to have a severe restrictive lung defect. Measurements of pulmonary function showed reductions in total lung capacity, inspiratory capacity, vital capacity, forced expiratory volume, transfer coefficient of the lung for carbon monoxide, and membrane-diffusing capacity. These changes took more than a year to return toward normal. (Pierce, A. K., and others: *Pulmonary Function in Bagasse Worker's Lung Disease*, *Amer. Rev. Resp. Dis.* 97: 561 (April) 1968.)

CHEMOTHERAPY IN BRONCHITIS The effect of prophylactic oxytetracycline was studied in 27 patients with early chronic bronchitis, most of whom remained under surveillance for five to six years. The number of exacerbations and the isolation rate of sputum pathogens was significantly reduced in the patients receiving prophylactic chemotherapy. Chemoprophylaxis, however, did not affect the rate of deterioration in ventilatory function. (Calder, M. A., Lutz, W., and Schonell, M. E.: *A Five Year Study of Bacteriology and Prophylactic Chemotherapy in Patients with Chronic Bronchitis*, *Brit. J. Dis. Chest* 62: 93 (April) 1968.)

LUNG LAVAGE A 42-year-old woman with alveolar proteinosis had normal lung mechanics but a Pa_{O_2} of 42 mm Hg and a low diffusing capacity. Traditional therapy with nebulized acetylcysteine, heparin and pancreatic dornase was of no benefit. The patient was anesthetized with thiopental and intubated with a Carlens tube. While ventilation of the right lung with 100 per cent oxygen was carried out, the left lung was degassed, followed by filling with a saline, heparin, acetylcysteine solution to a pressure of 25 cm H_2O . The left lung was drained and refilled eleven times, using a total of 16 liters of fluid. The patient's condition was so improved by the lung lavage that three days later the

Downloaded from <http://ajr.physiology.org/> at www.physiology.org/ on 27 March 2023