

(Bachofen, J., and Scherrer, M.: *Lung Tissue in Diffuse Interstitial Pulmonary Fibrosis*, *J. Clin. Invest.* 46: 133 (Jan.) 1967.)

**EMPHYSEMA** Three methods were used to measure total lung capacity (TLC) in normal subjects and in subjects with obstructive airway disease. The three methods were (1) estimation from chest roentgenogram, (2) helium dilution, and (3) body plethysmograph. In the normal subjects, no difference was found in TLC among the three methods. In the emphysematous subjects the TLC as found with the helium dilution method was significantly lower than the TLC as found with the roentgenologic estimation or body plethysmograph. It is felt that the roentgenologic method of estimating TLC is as accurate in normal and emphysematous subjects as the best physiological method available and should be used for large scale screening studies for emphysema. (Niklaus, T. M., and others: *Roentgenologic, Physiologic, and Structural Estimations of the Total Lung Capacity in Normal and Emphysematous Subjects*, *Amer. J. Med.* 42: 547 (April) 1967.)

**BRONCHIAL ASTHMA** During acute attacks of asthma in 15 patients, arterial hypoxemia developed from a disturbance in ventilation-perfusion ratio. Bronchodilator therapy did not improve the hypoxemia, perhaps because the agent used only accentuated the already existing uneven ventilation-perfusion relationship. All subjects improved with steroid therapy and the subjective improvement paralleled the decrease in arterial hypoxemia but not necessarily the change in expiratory flow with forced expiration. (Waddell, J. A., and others: *Hypoxia in Bronchial Asthma*, *Brit. Med. J.* 1: 402 (May) 1967.)

**CORTICOSTEROIDS AND CROUP** The value of corticosteroids in the treatment of acute croup remains in doubt. There has been little documented evidence proving the effectiveness of corticosteroids in the treatment of croup. In a recent controlled, double-blind study, Eden and Larkin found no demonstrable difference between the effect of a placebo and methylprednisolone. Sussman studied a group of children with obstructive respiratory

tract infection, and in the few cases of croup included, could not alter their clinical course with the use of dexamethasone. Despite the lack of proof of effectiveness, many pediatricians and otolaryngologists advocate the routine use of steroids in the treatment of croup. These proponents believe that the anti-inflammatory action reduces edema and exudate around the larynx and helps maintain an adequate airway, thus reducing the incidence of tracheostomy or respiratory failure or both. The present investigation was undertaken to obtain more data on this subject. Fifty patients hospitalized in acute respiratory distress presenting with hoarseness, inspiratory stridor and barking cough were found to be comparable. No statistically significant difference in response between the control group and the group treated with dexamethasone could be demonstrated. The crucial question still remains: Does the use of corticosteroids in the more fulminating case of croup result in a more favorable outcome? (Eden, A. N., and others: *Corticosteroids and Croup*, *I.A.M.A.* 200: 403 (May) 1967.)

**RESPIRATORY FAILURE** To determine the feasibility of parabiosis as a means of prolonged support in severe respiratory insufficiency, 20 cross-circulation experiments were performed in which the recipient dog was allowed to breathe spontaneously 5 to 10 per cent oxygen in nitrogen. Arteriovenous blood exchange between the parabiotic pair was effected with a double ventricle pump at flow rates of 10 to 29 ml./minute/kg. The duration of cross-circulation varied from 2 to 40 hours with a recipient survival rate of 65 percent. All donor animals survived. The arterial pH and  $P_{O_2}$  generally stabilized within one hour after the onset of cross-circulation in those experiments characterized by recipient survival. At blood flow rates above 20 ml./minute/kg., the oxygen saturations of the recipients' arterial blood approximated the saturation of normal venous blood. The recipients' arterial blood lactate showed an initial small increase but then remained stable throughout the period of cross-circulation. (Bryant, L. R., and others: *Prolonged Cross-Circulation for Reversible Pulmonary Failure*, *Surgery* 61: 932 (June) 1967.)