

HEPATITIS FROM STORED PLASMA

A prospective, controlled study of the incidence of hepatitis following transfusion of commercial pooled plasma, stored for at least six months in the liquid state at 30–32° C, was performed, using 5 per cent albumin as a control solution. Hepatitis developed in 12 of 120 plasma recipients. None of the 46 control subjects developed hepatitis. Fifty per cent of the hepatitis cases were icteric. All instances of hepatitis were confirmed by liver biopsy. The probability that 122 cases of hepatitis found in the plasma group could have occurred by chance was extremely low. The incidence of hepatitis observed among co-recipients of one plasma lot provided strong supporting evidence that the disease was transmitted by transfusion. (Redeker, A. G., and others: *A Controlled Study of the Safety of Pooled Plasma Stored in the Liquid State at 30–32° C for Six Months, Transfusion* 8: 60 (March) 1968.)

STORED PLASMA VS ALBUMIN In an editorial accompanying the article by Redeker *et al.* about the incidence of hepatitis following transfusion of stored plasma, physicians are cautioned about the use of old, pooled plasma. While the use of locally prepared, stored liquid plasma has several economic advantages, they do not outweigh the hazard from the use of such plasma. In addition to the possibility of inducing hepatitis, pooled plasma may contain high levels of anti-A and anti-B antibodies even after storage at room temperature for long periods, and is frequently associated with fever, chills, and allergic reactions during administration. Albumin rather than liquid plasma should be used as a plasma volume expander. (Committee on Plasma and Plasma Substitutes of the Division of Medical Sciences, National Research Council: *Statement on Normal (Whole, Pooled) Human Plasma, Transfusion* 8: 57 (March) 1968.)

DEXTRAN 70 Anaphylactoid reactions occurred in two of 84 hemodynamically stable patients given dextran 70, an incidence of 2.4 per cent. These reactions developed immediately after intravenous infusion of small amounts of dextran 70. The reactions were characterized by generalized subjective dis-

comforts rapidly followed by severe gastrointestinal disturbances and hypotension. The true nature of these reactions and the role and source of prior sensitization is unknown. The infusion of dextran 70 may provoke life-threatening reactions, especially in unconscious patients and in those with preexisting hypotension or intra-abdominal pathologic conditions. Treatment consisted of oxygen by face mask and 50 mg diphenhydramine hydrochloride (benadryl) and 15 mg of mephenetermine sulfate given intravenously. (Brisman, R., and others: *Anaphylactoid Reactions Associated with the Clinical Use of Dextran 70, J.A.M.A.* 204: 824 (May) 1968.)

Respiration

PULMONARY FUNCTION Twelve subjects were subjected to hyperbaric pressures in a dry chamber as follows: (1) 24 hours' exposure to 35 feet water pressure; (2) half- to two-hour periods of exposure to 100–165 feet water pressure; (3) stage decompression at 35 feet and 10 feet water pressure, including one hour of breathing pure oxygen prior to return to ambient pressure. Pulmonary function was measured at frequent intervals with the flow-volume technique (Wedge spirometer). Data about vital capacity, inspiratory capacity, expiratory reserve volume, tidal volume, and maximum inspiratory and expiratory flow rates obtained at low pressures were compared with those obtained during acute exposure to the higher pressures. The maximal inspiratory flow rate showed a significant reduction after the 24-hour exposure to a pressure equivalent to 35 feet of water. (Dougherty, J. H., Jr., and Schaefer, K. E.: *Pulmonary Function During Saturation-Excursion Dives Breathing Air, Aerospace Med.* 39: 289 (March) 1968.)

DISTRIBUTION OF INSPIRED GAS

Nitrogen washout curves obtained from normal subjects and from patients with obstructive airway disease were simulated with an analogue computer which described the washout in terms of six equally ventilated compartments. Changes in distribution of inspired gas occurred on change of body position and during voluntary change in inspiratory flow

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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 expiraotry 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