

discomfort about 15 minutes after the injection. No influence on the blood pressure and pulse rate was observed. (*Yamashita, H.: Ambenonium Chloride (WIN8077) as a Tubocurarine Antagonist (Japanese), Jap. J. Anesth. 13: 283, 1964.*)

**NERVE CONDUCTION** Conduction velocity in rat nerves was evaluated after alloxan injection or pancreatectomy. When a diabetic state was induced, a reduction of conduction velocity of approximately 30 per cent was noted in both sensory and motor fibers of the sciatic nerve. No slowing was observed in vagus nerve fibers. Nondiabetic alloxanized animals and starved rats showed no reduction in sciatic nerve conduction rates. Insulin treatment of the diabetic rats or addition of insulin to the *in vitro* preparation did not affect the reduced conduction velocity. (*Eliasson, S. F.: Nerve Conduction Changes in Experimental Diabetes, J. Clin. Invest. 43: 2533 (Dec.) 1964.*)

**HYPOTHERMIA** Prolonged ether anesthesia may cause definite damage to the liver, even if protection from cold stress seems to be complete. The damage is characterized by granulo-vacuolar degeneration of the liver cells, often leading to necrosis, fatty degeneration predominant in the marginal region of the lobule and complete disappearance of glycogen granules. Adequate blocking of autonomic homeostatic mechanism of the body by the use of blocking agents and mild room air cooling were found to be best for protecting the liver. (*Nagayami, K.: Histochemical and Electron Microscopic Changes in Dog Liver Following Induced Long-Term Hypothermia (Japanese), Far East J. Anesth. 4: 1 (1964).*)

**RESPIRATORY ALKALOSIS** After respiratory alkalosis in dogs,  $P_{CO_2}$  decreased to 5.6 mm. of mercury, serum bicarbonate fell to 6 mEq. per liter and pH rose to 7.7. Serum potassium level fell from 4.4 to 3.0 mEq. per liter. Phosphorus decreased from 2.7 to 2 mEq. per liter. Lactic acid rose from 5 to 8 mEq. per liter. Electrocardiographic changes were not constant, and seemed to depend more on the magnitude of potassium change than upon absolute levels. Hyper-

ventilation of digitalized patients may be dangerous. (*Murray, W., Andersen, M. W., and William-Olsson, G.: Biochemical and Electrocardiographic Effects of Hypocarbia, Arch. Surg. 90: 290 (Feb.) 1965.*)

**VENTILATION-PERFUSION** Employing a helium technique, rate of disappearance of inert gas during washout was followed simultaneously in alveolar gas and in arterial blood. Relative perfusion of the hypoventilated (slow) compartment was calculated and its ventilation-perfusion ratio was compared to the alveolar ventilation-perfusion ratio of the total respiratory system. In five normal subjects, the slow compartment received 1.8 per cent of total ventilation and 2.3 per cent of lung perfusion and had an alveolar ventilation-perfusion ratio 81 per cent of the total ratio. By comparison, study of an emphysematous subject showed that 10 per cent of alveolar ventilation was distributed to the slow compartment. The technique requires only one analytical method and is therefore applicable on a large scale. (*Klocke, R. A., and Farhi, L. E.: Simple Method for Determination of Perfusion and Ventilation-Perfusion Ratio of the Underventilated Elements (the Slow Compartment) of the Lung, J. Clin. Invest. 43: 2227 (Dec.) 1964.*)

**PULMONARY COMPLICATIONS** Preoperative pulmonary function, intracardiac pressures and degree of dyspnea were related to the incidence of postoperative respiratory insufficiency in 102 adult patients who underwent cardiac surgery. The purpose was to seek a reliable method of prognosticating the risk of postoperative respiratory insufficiency, especially after the use of cardiopulmonary bypass. When the heart-lung pump was used, 24 of 30 patients with a preoperative vital capacity less than 80 per cent of the predicted normal developed respiratory insufficiency, whereas only eight of 41 patients with a normal vital capacity had this complication. In 26 patients where the preoperative vital capacity and gas diffusion were both normal, only three developed postoperative respiratory insufficiency. Other single or combined pulmonary function abnormalities, including tests of the mechanics of breathing,