

preparations are not effective. Blood or plasma should be given to provide an immediate increase in the low plasma levels of coagulation factors. The only indication for the use of human fibrinogen (Parenogen) is the rare case of bleeding associated with hypofibrinogenemia. This may occur in patients with abruptio placentae, placenta previa, retained fetus, and some neoplasms, especially of the prostate. Effective blood substitutes are Dextran and plasma. (Buckwalter, J. A., and Connor, W. E.: *Hemorrhage—Anticipation and Control*, J. A. M. A. 174: 151 (Sept. 10) 1960.)

CEREBRAL HYPOXIA Damage to brain cells is determined chiefly by the degree and duration of the hypoxic period. Although some cerebral cells may be completely destroyed, others are not so severely affected and, under suitable conditions, their damage is reversible. The main factor preventing recovery of these cells is cerebral oedema, occurring as a result of simultaneous hypoxic damage to the cerebral blood vessels. Capillary rupture and increased permeability permit crystalloids and plasma proteins to escape from the vessels into the intercellular spaces. This oedema fluid acts as a physical barrier and interferes with the passage of oxygen across the intercellular spaces to the reversibly damaged cells; their hypoxic state is increased and irreversible changes may now set in. Once cerebral hypoxia from whatever cause is recognized, adequate oxygenation should be insured and then dehydration treatment started without delay. Preferred hypertonic solutions are 50 per cent sucrose or 30 per cent urea in invert sugar. (Cope, D. H. P.: *Dehydration Therapy in Cerebral Hypoxia*, *Proc. Roy Soc. Med.* 53: 678 (Aug.) 1960.)

PHEOCHROMOCYTOMA In the United States 800 deaths a year are due to this tumor. It consists of pheochromocytes, which are derived from sympathetic formative cells. Ninety per cent are found in the adrenal medulla. An excess of levarterenol or epinephrine is secreted by the tumor. This causes hypertension, hypermetabolism or hyperglycemia, and may mimic thyrotoxicosis. The best diagnostic test is quantitative de-

termination of urinary catecholamines. Problems of anesthesia include avoidance of stress hypertension during induction, provision of adequate muscle relaxation, and caring for circulatory and respiratory abnormalities which may occur during operation. When unrecognized pheochromocytoma is present, and unrelated operations are done, there may be as much as 50 per cent mortality. (Dieffendort, R. O., O'Donnell, A., and Creelman, E. W.: *Pheochromocytoma*, A. M. A. Arch. Surg. 81: 679 (Nov.) 1960.)

DIABETES Diabetic patients are sensitive to ganglion blocking agents and to tranquilizers. There is real danger of vomiting during induction of anesthesia in the diabetic with ketosis. Hexamethonium and tranquilizers may enhance the action of insulin and cause severe hypoglycemia. Hypoglycemic coma can occur during an operation and is characterized by sweating, pallor, tachycardia and dilated pupils. It should be treated with intravenous glucose 25 per cent followed by a 5 per cent solution and 25 to 50 units of insulin. Hypoglycemic coma may be the cause of delayed return of consciousness. (Jacques, A., and others: *Evaluation, Preparation of Patient and Selection of Anesthesia for Emergency Surgery*, *Surgical Clinics N. A.* 40: 1433 (Oct.) 1960.)

FAT EMBOLISM The diagnosis of fat embolism was made in 24 out of 6,084 patients with fractures; the real incidence is believed to be considerably higher. The clinical picture is due to obstruction of capillaries by droplets of fat with resulting hypoxia, anoxic damage of the endothelium and edema. The pulmonary circulation is first affected. Generalized fat embolism may later occur. It is characterized by cerebral damage, interference with renal function and petechiae. There may be excitement, somnolence or unconsciousness. Respiratory embarrassment is frequent. Hyperthermia occurs in 50 per cent of the cases. Cerebral edema is a frequent complication. The only effective preventive measures are limitation of movement of fractures and postponement of early surgery. Treatment is symptomatic. Hypotension must be prevented, hyperthermia must