

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. (*Diefendort, 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

be vigorously treated; respiratory difficulties are managed in the usual manner (tracheal aspiration, endotracheal intubation, tracheotomy and artificial respiration). Specific treatment (bile acids, heparin, organic solvents or unsaturated fatty acids in form of phospholipoid compounds) is still in the experimental stage. In two very serious cases deep ether anesthesia was successfully used. (Hossli, G., and Gattiker, R.: *Responsibilities of Anesthetist in Treatment of Fat Embolism, Der Anaesthetist* 9: 285 (Sept.) 1960.)

BILIARY COLIC Hexamethonium was administered (1 ml. of a 2.5 per cent solution) to 27 patients in order to stop the attack of biliary colic; in 14 of these patients atropine, morphine and pantopon were ineffective against the colic, and pain disappeared only in 15-20 minutes after the administration of hexamethonium. A course of treatment with hexamethonium in combination with a diet, choleric, antibiotics and physiotherapy was administered to 18 patients with chronic calculous cholecystitis and biliary dyskinesia who had been previously treated with other antispasmodics without result. In the above cases hexamethonium was injected intramuscularly in daily doses of 1-2 ml. of a 2 per cent solution for 2-3 weeks. As a result of the treatment pain in the right hypochondrium disappeared, the liver decreased in size and the general state improved in the majority of patients. No side effects were noted. The good therapeutic effect of hexamethonium makes it possible to avoid surgery in some cases. (Sharlai, R., and others: *Action of Hexamethonium in Attack of Biliary Colic, Sov. Med.* 9: 114, 1959.)

ACUTE PANCREATITIS Vagosympathetic block was performed, in addition to administration of subcutaneous infusions of glucose, diet and cardiac stimulants, on 11 patients with acute pancreatitis. The block was performed with 60-70 ml. of 0.5 per cent procaine solution. In all patients the

pains disappeared almost completely, cyanosis diminished, general condition improved, the amount of urinary diastase decreased, and the symptoms of peritoneal irritation subsided. This improvement lasted for 3-12 hours. In patients with an oedematous form of pancreatitis the block was repeated daily for 3-6 days. Vagosympathetic block is a valuable method in the treatment of various forms of pancreatitis. (Karavanov, G. G., and Retvinskii, A. N.: *Use of Vagosympathetic Block in Treatment of Acute Pancreatitis, Sov. Med.* 10: 103, 1959.)

BLOOD LOSS The blood loss during tonsillectomy and adenoidectomy was measured in 197 children. The average loss was found to be 109 ml. with a range from 14 to 448. In 18 per cent of children the blood loss exceeded 10 per cent of a calculated total blood volume. No significant differences could be found between the various anesthetic agents used. Similarly, intubation and the use of a relaxant gave no detectable change. (Spoerel, W., Hersey, L., and Greenway, R.: *Blood Loss during Tonsillectomies in Children, Canad. M. A. J.* 82: 1265 (June 18) 1960.)

POSTANESTHETIC NAUSEA In a study of 1,055 patients the incidence of nausea and vomiting was as follows: control 14 per cent, after placebo 14.2 per cent, after trimethobenzamide (Tigan) 12.1 per cent, and after perphenazine (Trilafon) 6.5 per cent. Perphenazine noticeably prolonged the postanesthetic sleeping time but trimethobenzamide did not. Neither perphenazine nor trimethobenzamide was followed by more hypotension than was seen following placebo. (Belleville, J. W., Bross, I. D., and Howland, W. S.: *Postoperative Nausea and Vomiting. V. Antiemetic Efficacy of Trimethobenzamide and Perphenazine, Clin. Pharmacol. Ther.* 1: 590 (Sept.-Oct.) 1960.)

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