

dilution analysis technique which was shown to be accurate within ± 3 per cent. Standard anesthetic techniques were used without hypotension, except for the occasional inclusion of halothane which resulted in systolic pressure falling to between 85 and 100 mm. of mercury. Average blood loss for 26 patients subjected to gastrectomy with vagotomy for peptic ulcer was 150 ml., range 40-340. The average loss of 15 patients for cholecystectomy was 100 ml., while combined with common-duct exploration, the loss was 120 ml. In 12 patients in whom an anterior resection of the colon was performed for carcinoma, the average loss was 190 ml. In 11 patients for radical mastectomy for carcinoma of the breast, the average loss was 340 ml. Finally in 12 patients with benign prostatic hypertrophy, retropubic prostatectomy resulted in a 370 ml. loss. (Gardiner, A. J. S., and Dudley, H. A. F.: *Blood-Loss in General Surgical Patients*, *Lancet* 2: 859 (Oct. 26) 1963.)

RETICULAR FORMATION In cats anesthetized with pentobarbital recordings of firing rates were made from the reticular system during mechanical blood pressure alterations, following adrenalin injection, and following cerebrospinal fluid pressure changes. During an elevation of blood pressure 80 per cent of the reticular neurons showed a decrease and 20 per cent an increase of their firing rate. When blood pressure was left constant artificially, no changes in electrical activity were induced by intravenous injection of adrenalin. Elevation of cerebrospinal fluid pressure produced no effect on the firing of neurons in the posterior hypothalamus. Pressosensitive neurons apparently lie in the mesencephalic reticular formation and play important roles in the ascending activating system, (Baust, W., and Niemczyk, H.: *Studies on the Adrenaline-Sensitive Component of the Mesencephalic Reticular Formation*, *J. Neurophysiol.* 26: 692 (Sept.) 1963.)

RENAL BLOOD FLOW The dog kidney simulated the human kidney by responding to epinephrine injections with intense segmental

constriction of the renal arteries and decrease in renal blood flow. Daily stimuli which produce outpouring of endogenous epinephrine may place unusual stress on certain organs such as the kidney, because of interference with its normal blood supply and adversely affect the vessel segment which is reactive to repetitive stimulation. (De Maria, W. J. A., and others: *Renal Artery Response to Epinephrine*, *Proc. Soc. Exp. Biol. Med.* 114: 588 (Dec.) 1963.)

OXYGEN EMBOLI A marked and prolonged increase in blood flow follows passage of a gas embolus through an artery. This was shown in 63 dogs, by injecting various gases into arteries of the extremities. Nitrogen, air, oxygen, carbon dioxide or nitrous oxide were used. After a transient increase in vascular resistance, the flow rate increased almost 100 per cent. The response is attributed not to oxygenation, but to mechanical factors, reactive hyperemia and stimulation of beta receptors in vascular smooth muscle. In 38 patients, intra-arterial injections of oxygen were given repeatedly. Therapy was considered worthwhile in 60 per cent of those with claudication or pain at rest, but was of no value in those with ischemic ulcers or incipient gangrene. One patient developed a cerebral vascular accident because of faulty positioning during the injection. (Baird, R. J., Miyagishima, R. T., and Labrosse, C. J.: *Vasodilating Action of Intra-Arterial Oxygen Emboli*, *Arch. Surg.* 88: 23 (Jan.) 1964.)

STORED BLOOD Acid-citrate-dextrose (ACD) solution has a pH of 5.05. Immediately after drawing a pint of blood into ACD solution, the blood pH goes from 7.4 to below 7.0. Carbon dioxide combining power is reduced to half. After 14 days of storage pH is 6.8 and carbon dioxide combining power is 16 or 17 volumes per cent. Lactic acid rises from 10 mg. per cent to 50 mg. per cent in two weeks. (Samueloff, S. L., Luttwak, E. M., and Wiggerhouse, B. M.: *Acid-Base Balance Changes in Citrated Bank Blood*, *Arch. Surg.* 87: 1029 (Dec.) 1963.)