

and reduced compliance probably secondary to pulmonary capillary-venous distension. The increased total airway resistance is probably related to the bronchiolar constriction caused by cerebral hypoxic responses and reduced alveolar PCO_2 . (Scarpelli, E. M., and Spach, M. S.: *Respiratory Mechanics During Ventricular Asystole in Dogs with Complete Heart Block*, *Circulat. Res.* 10: 208 (Feb.) 1962.)

HYPOTENSION Superior vena cava flow after induced hypotension with Arfonad in dogs during extracorporeal perfusion increased from 38 to 63 per cent of the total flow. Total oxygen consumption decreased within seven minutes after hypotension began: 23 per cent decrease in the area drained by the superior vena cava and 60 per cent in that drained by the inferior vena cava. The data indicate a preferential shunting of the blood to and a preferential oxygen consumption by the cephalad part of the body during hypotension with a constant cardiac output. (Bickley, J. E., and Kittle, C. F.: *Changes in Regional Oxygen Consumption and Blood Flow with Induced Hypotension During Extracorporeal Perfusion*, *Ann. Surg.* 155: 373 (Mar.) 1962.)

BLOOD FLOW AUTOREGULATION

The effect of hemoglobin oxygen saturation upon blood flow through the hind leg of the dog was studied by perfusing the femoral arteries of five normal and nine spinal animals with blood, the oxygen saturation of which was varied between 100 per cent and zero per cent. Decreasing the oxygen saturation stepwise caused a correlated increase in blood flow through the leg. Blood flow in non-spinal dogs increased to an average of 3.4 times as oxygen saturation fell to zero per cent. In spinal dogs the increase averaged 3.1 times normal as oxygen saturation fell to 10 per cent. These experiments demonstrated that the local tissues can autoregulate their blood flow to help maintain an adequate supply of oxygen. (Ross, J. M., and others: *Autoregulation of Blood Flow by Oxygen Lack*, *Amer. J. Physiol.* 202: 21 (Jan.) 1962.)

PORTAL PRESSURE In dogs, epinephrine raises portal pressure due to an increase in hepatic vascular resistance. Pitressin reduces

the pressure due to a combination of reduction of splanchnic blood flow and a reduction in vascular resistance. Arfonad lowers the pressure without any changes in the liver. (Butz, G. W., and others: *Studies of the Effects and Modes of Action of Autonomic Drugs on Portal Hemodynamics*, *Surgery* 51: 364 (Mar.) 1962.)

HYPOTHERMIA Dogs under mild hypothermia (29°–30° C.) can survive after 15 minutes of total occlusion of the cerebral circulation. Sixteen of 19 dogs showed transient neurologic damage. Total occlusion for 20 minutes produced death in some animals. Total occlusion for 24 minutes resulted in no survivals. (Anabtaui, I. N., and Brockman, S. K.: *Protective Effect of Hypothermia on Total Occlusion of the Cerebral Circulation: A Quantitative Study*, *Ann. Surg.* 155: 312 (Feb.) 1962.)

COMPUTER A computer program may be used to extract automatically clinically useful measurements of the electrocardiogram or any electrophysiological tracing. There are often marked differences in interpretation of electrocardiograms from one reader to another as well as individual reader difference. Machine values have the advantage that they can be calibrated to conform to the desired clinical levels of precision. Since reproducibility and precision of measurement are much greater with the machine analysis than with clinical techniques, variation in measurement is virtually nonexistent. (Caceres, C. A., and others: *Computer Extraction of EKG Parameters*, *Circulation* 25: 356 (Feb.) 1962.)

BLOOD PLATELETS Canine platelet concentrates have been preserved by an adaptation of the glycerol freezing technique. The optimum concentration of glycerol was 7.5 to 10 per cent. These glycerol-treated platelet concentrates which were frozen and thawed showed a marked loss of platelet viability. The 24 hour post-transfusion sample averaged only 30 per cent of the peak level compared with 60 per cent in the unfrozen samples. Partial removal of glycerol was achieved by the addition of hypertonic dextrose or sorbitol. Addition of dextrose or sorbitol to glycerol-treated platelets that were not frozen per-