

from a pump-oxygenator system. Studies were made on 80 surgical procedures—54 were for interventricular septal defects and 26 for various congenital and acquired lesions of the heart. The use of the acetylcholine method for cardiac arrest proved very valuable in the complicated cardiac operations. (Lam, C. R., and others: *Clinical Experiences with Induced Cardiac Arrest During Intracardiac Surgical Procedures*, *Ann. Surg.* 146: 439 (Sept.) 1957.)

VENTRICULAR FIBRILLATION

Maximum vulnerability of the dog heart to stimuli which may produce ventricular fibrillation is in the final 30 to 90 milliseconds of systole. This period coincides with the T wave of the electrocardiogram. A current in milliamperes which caused a fibrillation of at least 2 seconds was designated threshold strength. Thresholds are reduced during coronary occlusion but only over the infarct area. These thresholds return to normal when the occlusion is released. The right ventricle is more susceptible than the left, and the posterior surface of the left is more susceptible than the anterior surface. (Shumway, N. E., Johnson, J. A., and Stesh, R. J.: *Study of Ventricular Fibrillation by Threshold Determinations*, *J. Thoracic Surg.* 34: 643 (Nov.) 1957.)

AFIBRINOGENEMIA A 37-year-old woman with a missed abortion underwent a surgical evacuation of the uterus with subsequent hemorrhage and shock. Dextran, blood and fibrinogen failed to ameliorate the condition and a hysterectomy was performed. (Charles, D.: *Incoagulable Blood Syndrome and Missed Abortion*, *Obst. & Gynec.* 10: 418 (Oct.) 1957.)

MYOCARDIAL FIBROSIS Eleven patients are presented: 4 with a biventricular type and 7 with a predominant left ventricular fibrosis. Either type can lead to low-output heart failure. The hemodynamic defect is interference with diastolic filling and probably systolic emptying of the heart. Constrictive pericarditis and endocardial fibroelastosis show similar hemodynamic changes and clinical signs and symptoms. (Robin, E. D., and Bur-

well, C. S.: *Hemodynamic Aspects of Diffuse Myocardial Fibrosis*, *Circulation* 16: 730 (Nov.) 1957.)

AIR EMBOLISM Small amounts of air in the left atrium result in fatal coronary air embolism. Air, 0.5 cc./kg. of body weight, injected into the left atrium, and 0.5 cc. to 1.5 cc. injected in the left ventricle were usually fatal. Air in the common carotid of dogs is tolerated better; 1.0 cc./kg. caused no deaths or cerebral damage in 80 per cent of the animals. However, 8 cc./kg., injected in the descending aorta causes death by coronary air embolism or air in the right atrium and right ventricle. (Benjamin, R. B., Turbak, C. E., and Lewis, F. J.: *Effects of Air Embolism in Systemic Circulation and its Prevention During Open Cardiac Surgery*, *J. Thoracic Surg.* 34: 548 (Oct.) 1957.)

HYPOTHERMIA Blood pressure was little changed and vasoconstriction did not occur in response to whole body hypothermia in the rat and hamster. Linear velocity decreased and blood viscosity increased, sometimes to the point of no flow. Blood flow shifts by arterial narrowing probably occur only in response to local cooling. (Lynch, H. F., and Adolph, E. F.: *Blood Flow in Small Blood Vessels During Deep Hypothermia*, *J. Appl. Physiol.* 11: 192 (Sept.) 1957.)

HYPOTHERMIA Modifications in the technique of hypothermia were concerned with (1) rewarming, (2) ventricular irritability, and (3) increased bleeding tendency. Metabolic acidosis was corrected by modifying the anesthetic technique. All shivering was controlled by the use of chlorpromazine, promethazine, and meperidine. Respiratory alkalosis during cooling was avoided. Data revealed that heparinized blood was superior to citrated blood for transfusion during hypothermia. Such blood has apparently reduced the incidence of irreversible ventricular fibrillation. (Woddell, W. G., Fairley, H. B., and Bigelow, W. G.: *Improved Management of Clinical Hypothermia Based Upon Related Biochemical*