

Squatting reduces the blood flow in the legs with a consequent increase in flow to the upper part of the body, and in an increased venous oxygen content in this region. Benefits obtained by individuals with cyanotic congenital heart disease are thought to result from increased central nervous system and cardiac oxygen tension following squatting. (Brotmacher, L.: *Haemodynamic Effects of Squatting During Repose*, *Brit. Heart J.* 19: 567 (Oct.) 1957.)

Squatting causes kinking of the femoral arteries and veins in the groins and in the popliteal fossae. Blood flow in the legs is reduced, mainly as a result of obstruction to venous return. When patients with cyanotic heart disease exercise, the oxygen content of femoral venous blood falls precipitously. The desaturated blood reaches the right side of the heart and is shunted into the systemic arteries. The oxygen saturation of arterial blood falls in consequence. Squatting impedes venous return from legs and therefore minimizes the tendency of the arterial oxygen saturation to fall with exercise. (Brotmacher, L.: *Haemodynamic Effects of Squatting During Recovery from Exertion*, *Brit. Heart J.* 19: 567 (Oct.) 1957.)

**HYPOTHYROIDISM** Clinical and hemodynamic studies in twelve patients with myxedema were compared with those of seven euthyroid patients with chronic congestive failure from myocardial disease. In the hypothyroid patients the low cardiac outputs increased and elevated systemic resistances decreased with exercise in contrast to the patients with congestive failure. Mean arteriovenous oxygen differences in the patients with myxedema were not significantly different from those of healthy subjects. In view of the normal responses of cardiac output and arteriovenous oxygen differences in the patients with myxedema, the finding of elevated mean pressures in the right atria and pulmonary arteries, end diastolic right ventricular pressures, and diastolic dips in the right ventricular pressure curves in the patients with myxedema with enlarged cardiac silhouettes suggested pericardial effusion rather than cardiac dilatation as a cause of enlarged cardiac contour. (Graet-

tinger, J. S., and others: *Correlation of Clinical and Hemodynamic Studies in Patients with Hypothyroidism*, *J. Clin. Invest.* 37: 502 (April) 1958.)

**CORONARY CIRCULATION** Chest pain in patients with aortic insufficiency has been ascribed classically to myocardial ischemia due to a decrease in the coronary blood flow. In the anesthetized dog acute aortic insufficiency, sufficient to lower markedly the mean arterial blood pressure and the aortic diastolic pressure, resulted regularly in an increase in coronary sinus blood flow and myocardial oxygen consumption. The increase in coronary flow must be due to a decrease in the resistance of the coronary bed. The decrease in the resistance was probably induced by the increase in work of the left ventricle. Whether the increase in coronary flow was sufficient to meet the demands made upon the left ventricle by the aortic insufficiency, and thereby prevent myocardial ischemia, cannot be determined from these experiments. (Wegria, R., and others: *Effect of Aortic Insufficiency on Arterial Blood Pressure, Coronary Blood Flow and Cardiac Oxygen Consumption*, *J. Clin. Invest.* 37: 421 (March) 1958.)

**BLOOD VOLUME** An average increase of 56 per cent in mean arterial pressure by levarterenol was associated with an average decrease of 15 per cent in plasma volume, no change in red cell mass, an average increase of 8 per cent in hematocrit and an average increase of 5 per cent in plasma protein. The fluid lost during hemoconcentration contains less protein than the plasma. These changes are quickly reversed when the levarterenol is discontinued. (Finnerty, F. A., Jr., Buchholz, J. H., and Guillaudeu, R.: *Blood Volumes and Plasma Protein During Levarterenol-Induced Hypertension*, *Clin. Invest.* 37: 425 (March) 1958.)

**BLOOD VOLUME** Values for blood volume (Evans blue technique) in a series of 100 patients suffering from lesions of considerable magnitude were from 2 to 10 per cent below normal in four-fifths of the patients when they were admitted to the hospital. No estimate of intravascular

content can be gained from determinations of hemoglobin, hematocrit and red blood cell count. Operative and postoperative complications and fatalities might be reduced if blood volume deficits were recognized and corrected. Routine blood volume determinations in hospital laboratories is not a formidable procedure. (Williams, W. T., and Parsons, W. H.: *Indications for Blood Volume Determinations in Major Surgical Procedures*, *Surg. Gynec. & Obst.* 106: 435 (April) 1958.)

**SHOCK** Using the isolated intestine, the author showed the presence of renin in the blood of the majority of animals after blood loss; renin was not detected after blood loss in the blood of animals whose kidneys had been removed. After removal of the kidneys the animals tolerated blood loss badly, showing weak compensation as compared with control animals. In compensation for blood loss the author attaches definite importance to a hypertensive factor of renal nature and calls the factor renin; nevertheless he stresses that he has not solved the problem of the nature of this substance. (Brusilovs-Kaya, D. A.: *Role of Kidneys in Compensatory Reactions of Body to Blood Loss*, *Ark. Pat.* 18: 76, 1956.)

**GAS PERFUSION** Rabbit heart and cat tibialis muscle were maintained in good condition and in an active state for 3 to 4 hours by the intravascular perfusion of these tissues with warm, moist oxygen containing 5 per cent carbon dioxide. A pressure of 120 mm. of mercury was used to displace fluid from the blood vessels. Once gas had made its way into the veins the supply pressure was maintained at 80 mm. of mercury. (Burns, B. D., Robson, J. G., and Smith, G. K.: *Survival of Mammalian Tissues Perfused with Intravascular Gas Mixtures of Oxygen and Carbon Dioxide*, *Canad. J. Biochem. & Physiol.* 36: 499 (May) 1958.)

#### FETAL ELECTROCARDIOGRAPHY

Fetal electrocardiographic tracings using the abdominal leads only do not permit identification of the ST segment and T wave deflection. When abdominal, paired with intrauterine leads were used, more in-

formation was obtained permitting interpretation of fetal tracings as related to fetal distress. Further evaluation and standardization of uncomplicated fetal electrocardiographic tracings are needed. (Kaplan, S., and Tojama, S.: *Fetal Electrocardiography*, *Obst. & Gynec.* 11: 392 (April) 1958.)

**FETAL LIFE** Employing a Grass channel electroencephalograph, abdominal leads, lumbosacral leads and two arm leads the author has recorded the fetal electrocardiogram in order to determine fetal life. The method has proved of value as early as the eighteenth week. This method will also be useful in determining the relationship between increased intracranial pressure and maternal anesthesia to fetal anoxia. (Miller, M. L., and others: *Determination of Fetal Life by Electrocardiography*, *Obst. & Gynec.* 11: 398 (April) 1958.)

**HEMODYNAMICS** Seven dogs were prepared with an arteriovenous fistula between the femoral artery and vein. The size of the fistula was regulated by a screw clamp on the large Tygon tube connecting the above vessels. When the clamp was open cardiac output increased from 16 to 130 per cent. Mean arterial blood pressure remained unchanged or decreased 10-30 mm. of mercury. Coronary sinus blood flow and cardiac work increased with a fistulae. Effect on the heart rate was variable. There was an increase in the cardiac oxygen consumption. The increase of the coronary blood flow was due to a decrease in the resistance of the coronary bed. (Wegria, W., and others: *Effect of Arteriovenous Fistula on Mean Arterial Blood Pressure, Coronary Blood Flow, Cardiac Output, Oxygen Consumption, Work and Efficiency*, *Am. J. Physiol.* 193: 147 (April) 1958.)

**ETHER** Ballistocardiograms showed evidence of myocardial depression by ether in 4 healthy, anesthetized, young male volunteers. (Malt, R.: *Depressant Effect of Ether on Heart*, *Am. Heart J.* 55: 572 (April) 1958.)

**OPEN HEART OPERATIONS** Hematologic studies in 12 consecutive patients