

Induced Hypotension, Der Anaesthetist 10: 72 (Mar.) 1961.)

HEMODYNAMICS Effects of alterations of intracardiac pressure on total venous return, systemic vascular volume and peripheral vascular resistance were measured during perfusion of the systemic vascular bed using an extracorporeal circulation while pressures were independently varied in an innervated, but hemodynamically isolated heart. Elevation of intracardiac pressure in all four chambers or only in the left side of the heart resulted in an augmentation of systemic vascular volume. Venous return declined by an average of 25 per cent from the control levels. Significant decreases in systemic vascular resistance were observed when left ventricular systolic pressures were elevated, when left ventricular diastolic and mean left atrial pressures were also elevated or when extrasystoles occurred. Only minimal alterations in vascular resistance were observed with elevation of right heart pressures alone. (Ross, J., Frahm, C. J., and others: *Influence of Intracardiac Baroreceptors on Venous Return, Systemic Vascular Volume and Peripheral Resistance, J. Clin. Invest.* 40: 563 (Mar.) 1961.)

SPLANCHNIC CIRCULATION Estimated hepatic blood flow, splanchnic blood volume, calculated splanchnic vascular resistance, and mean arterial pressure did not change significantly or consistently during light general anesthesia with thiopental, nitrous oxide and succinyl choline. Hypercapnia under these circumstances results in an increase in mean calculated splanchnic vascular resistance. Estimated hepatic blood flow decreases, remains unchanged or rises depending upon the arterial pressure. The average value for circulating splanchnic blood volume decreases significantly. These changes are ascribed to a combination of arteriolar and venous constriction. Sulfobromophthalein clearance and extraction by the liver decrease significantly during hypercapnia although unaffected by anesthesia. (Epstein, R. M., and others: *Effect of Hypercapnia on Estimated Hepatic Blood Flow, Circulating Splanchnic Blood Volume, and Hepatic Sulfobromophtha-*

lein Clearance During General Anesthesia in Man, J. Clin. Invest. 40: 592 (Mar.) 1961.)

HEPATIC BLOOD FLOW Hepatic plasma flow during thiopental, cyclopropane, ether, local, and spinal anesthesia was measured in 68 patients using the tagged chromic phosphate method. Premedication with pentobarbital and atropine produced only slight changes. During thiopental-nitrous oxide anesthesia, in 11 patients, mean hepatic plasma flow fell from 829 to 531 ml. per minute after induction of anesthesia. When thiopental was supplemented with succinylcholine for muscular relaxation, the accompanying depression of liver plasma flow was considerably less. With cyclopropane anesthesia, in 13 patients, mean hepatic plasma flow fell from 710 ml. to 507 ml. per minute. During thiopental and during cyclopropane anesthesia, changes in hepatic flow were consistent and statistically significant. During ether anesthesia the changes were variable and of smaller magnitude. Mean hepatic plasma flow was 903 ml. before induction, and 810 ml. during induction. There were no demonstrable correlations between changes in blood pressure, pulse, or cardiac output and hepatic plasma flow nor between the anesthetic level, pH, carbon dioxide tension, and hepatic plasma flow. (Levy, M. L., and others: *Hepatic Blood Flow Variations during Surgical Anesthesia in Man Measured by Radioactive Colloid, Surg. Gynec. & Obstet.* 111: 289 (Mar.) 1961.)

BLOOD-COAGULATION By means of a battery of simple tests the changes in various clotting elements were studied in 30 experimental and 8 clinical perfusions of under 1½ hours duration and in 1 patient perfused for 2½ hours. The complete neutralization of heparin was achieved in all cases by use of Polybrene in a dose of 1 to 1.5 mg. for each milligram of the heparinizing dose which was 2 mg. per kilogram. In perfusion under 1½ hours the average platelet count after bypass was about 70 per cent of the pre-perfusion level and the fibrinogen concentration about 85 per cent. Prothrombin time was little changed. The changes bore no direct relationship to the duration of the perfusion but were influenced by the effect of massive