

THIOPENTAL ARRHYTHMIAS Effects of epinephrine in dogs under cyclopropane anesthesia were compared to those under thiopental anesthesia and thiopental-cyclopropane anesthesia. Bigeminal rhythm occurred in less than half the animals under cyclopropane or thiopental anesthesia but was observed in over 90 per cent where the two anesthetic agents were present. The duration of the effect of thiopental outlasted by many hours its usual anesthetic action. Intravenous subeffective doses of epinephrine caused bigeminal rhythm if preceded by small doses of thiopental in the left circumflex coronary artery. This rarely occurred when thiopental was injected into the left anterior descending coronary artery which supplies no blood to the atrioventricular node. Thus it is probable that thiopental exerts its action on the upper part of the conduction system. Induction of anesthesia with thiopental plays a considerable role in the "cyclopropane-epinephrine" cardiac arrhythmias described in the literature. (MacCannell, K. L. and Dresel, P. E.: *Potentialiation by Thiopental of Cyclopropane-Adrenaline Cardiac Arrhythmias*, *Canad. J. Physiol. Pharmacol.* 42: 627 (Sept.) 1964.)

DIGITALIS Nine patients, 3 with left ventricular failure and 6 with compensated heart disease, were studied by means of right and transseptal left heart catheterization during acute digitalization with acetyl strophanthidin. In the decompensated group the digitalization produces a decrease in heart rate and increases in stroke index, stroke work, mean stroke power, mean systolic ejection rate, and the rate of pressure rise in the left ventricle. Left ventricular end-diastolic pressures were markedly lowered after digitalization. In the compensated group no significant changes in cardiac index, stroke index, or mean systolic ejection rate were observed. Although there were small increases in stroke work and power and moderate decreases in left ventricular diastolic pressures, the most striking finding was an increase in the rate of rise of left ventricular systolic pressure. (Murphy, G. W., and others: *Left Ventricular Performance Following Digitalization in Patients With and Without Heart Failure*, *Circulation* 30: 358 (Sept.) 1964.)

DIGITALIS Effects of acetylstrophanthidin and ouabain on renal blood flow and renal vascular resistance were studied in 29 dogs in which cardiac action was excluded by cardiopulmonary bypass and in which total perfusion was kept constant. There was a significant fall in renal blood flow and a rise in renal vascular resistance and total peripheral resistance. This renal vascular response was seen in all animals and could not be abolished by ganglionic blockade or sympathetic denervation of the kidney. Direct renal intraarterial injection provoked a similar vascular response without systemic changes, suggesting that digitalis acts directly on arteriolar smooth muscle. (Waldhausen, J. A. and Herendeen, T.: *Direct Effects of Digitalis on Renal Blood Flow*, *Surgery* 56: 540 (Sept.) 1964.)

HEPARIN Acidosis inactivates heparin. Below pH 7.3, heparinized blood begins to clot. Below pH 6.6, heparinized blood clots more rapidly than untreated blood. Venous and capillary blood may be in this low range during hemorrhagic or endotoxin shock and infection. During acidosis, intravascular coagulation may not be prevented by heparin, but fibrinolysis is effective in the presence of acidosis. (Hardaway, R. M., and others: *Clotting Time of Heparinized Blood*, *Arch. Surg.* 89: 701 (Oct.) 1964.)

DEXTRAN Low molecular weight dextran (LMWD) appears to minimize the effects of cellular sludging during open heart surgery. In vitro, mixing of equal parts of fresh heparinized human blood and 5 per cent dextrose in distilled water results in rapid hemolysis. A similar mixture of blood and LMWD is without hemolysis. LMWD alone, when used as prime, lessens hemolysis during clinical extracorporeal circulation and comparison of the dextrose-only prime with the dextran-only prime showed a 36 per cent reduction in the rate of plasma hemoglobin rise. There was no significant difference in the urine output of those patients who had LMWD and dextran or 5 per cent dextrose as priming volumes. (Mainardi, L. C., and others: *Hemodilution in Extracorporeal Circulation: Comparative Study of Low Molecular Weight Dextran and 5 Per Cent Dextrose*, *Surgery* 56: 349 (Aug.) 1964.)