

arterectomy of the carotid bifurcation. Since the opposite carotid is also likely to be involved, it is safer to occlude the affected common carotid under hypothermia than to rely on a cross-circulation from a diseased vascular tree. (Ross, D. N.: *Hypothermia as an Aid to Surgery*, *Ann. Roy. Coll. Surgeons* 24: 43 (Jan.) 1959.)

HYPOTHERMIA Pentobarbital-anesthetized dogs, cooled in ice-water, were found to have a 96 per cent incidence of ventricular fibrillation. Treatment with intravenous potassium chloride 150–250 mg. per kg., reduced the frequency of fibrillation to 57 per cent. This was interpreted as indicating that ionic imbalance observed with hypothermia produces a marked arrhythmic tendency and that proper alteration of plasma potassium levels reduces the danger of fibrillation. (Beavers, W. R., and Covino, B. G.: *Relationship of Potassium and Calcium to Hypothermic Ventricular Fibrillation*, *J. Appl. Physiol.* 14: 60 (Jan.) 1959.)

HYPOTHERMIA In rats with body temperatures below 15 C., the arterial pressure reflected the temperature of the heart. Below 8 C., the heart could remain stopped for one hour, with subsequent recovery. Since the state of “suspended animation” cannot last indefinitely, some processes evidently are not suspended. (Adolph, E. F., Klem, S. N., and Marrow, L. B.: *Reversible Cessation of Blood Circulation in Deep Hypothermia*, *J. Appl. Physiol.* 13: 397 (Nov.) 1958.)

HYPOTHERMIA During hypothermia in man intravascular aggregation of erythrocytes occurs and the peripheral circulation slows down. When the temperature drops below 31 C. these cell aggregations cause temporary occlusion of the capillaries resulting in a cessation of capillary circulation. After rewarming these phenomena are completely reversed. The intravascular aggregation of erythrocytes can be observed directly by microscopic examination with the nontouch-method of the conjunctival vessels and can be photographed. (Konrad, R. M., and Zindler, M.: *Biomicroscopical Investigations of Conjunctival Vessels*

During Hypothermia: Der Anaesthetist 7: 307 (Oct.) 1958.)

HYPOTHERMIA Fifty dogs were cooled below 20 C., circulation was interrupted by clamping the large vessels for 40 to 84 minutes, and surgery was performed on the open heart. Twenty-three out of the last twenty-five dogs survived. Deep ether anesthesia prevented ventricular fibrillation. The authors believe that there is little danger in cooling dogs to 20 C. provided anesthesia is deep and electrocardiograms and electroencephalograms are constantly monitored. Mortality with open heart surgery would be lower with hypothermia than with extracorporeal circulation. (Kolb, E., and others: *Anesthesia with Hypothermia Below 20 C. in Animal Experiments*, *Der Anaesthetist* 8: 5 (Jan.) 1959.)

ACIDOSIS Defects in the tubular reabsorption of alkali or in tubular excretion of hydrogen, or both, are at fault in patients with acidosis due to renal disease. Relative importance of these disorders varies, but in general, all renal acidosis is “tubular” acidosis. (Schwartz, W. B., and others: *On Mechanism of Acidosis in Chronic Renal Disease*, *J. Clin. Invest.* 38: 39 (Jan.) 1959.)

CARBON DIOXIDE BUFFER An organic carbon dioxide buffer, 2-amino 2 hydroxymethyl 1, 3-propane diol, was given intravenously to dogs who were subjected to apneic oxygenation for one hour. After one hour arterial oxygen saturation was 100 per cent, average arterial partial pressure of carbon dioxide was 89 mm. Hg, total plasma carbon dioxide was 52.9 millimoles/liter, plasma bicarbonate was 50.1 millimoles/liter, arterial pH averaged 7.37 and the bicarbonate/carbonic acid ratio was 19. Blood pressure and cerebrospinal fluid pressure remained within normal limits, cardiac arrhythmias did not occur, serum potassium ion levels remained constant and there was profuse diuresis. The organic buffer seems to combat deleterious effects of carbon dioxide in two ways: (1) maintenance of a normal bicarbonate/carbonic acid ratio and normal blood pH despite high levels of carbon dioxide retained by the body, and (2) 18 per cent to 28 per cent of the estimated