

thidine, bretylium and BTM 10, all drugs which diminish sympathetic nerve activity by inhibiting the release of catecholamines from sympathetic terminals. Traumatic shock was induced in rats by the Noble-Collip drum technique. Some of the animals were pretreated with the three drugs under study. Pretreatment with all three drugs reduced the incidence of mortality to a highly significant degree. (Lum, B. K. B., and Calvert, D. N.: *Protection against Traumatic Shock by Guanethidine, Bretylium and BTM 10*, *J. Pharmacol. Exp. Ther.* 138: 74 (Oct.) 1962.)

SHOCK Administration of fibrinolytic after hemorrhage can protect significantly against irreversible shock in dogs. A fatal outcome for hemorrhagic shock in dogs may be predicted by the appearance of a prolonged clotting time in the latter part of the shock period. Such prolonged clotting time is most likely due to the appearance of autogenous heparin. The mechanism of the protecting action of fibrinolytic against irreversible hemorrhagic shock is due either to dissolution of established clots in the visceral capillaries or to destruction of fibrinogen, making clotting impossible. (Hardaway, R. M., and Drake, D. C.: *Prevention of "Irreversible" Hemorrhagic Shock with Fibrinolytic*, *Ann. Surg.* 157: 39 (Jan.) 1963.)

PLASMA IN OLIGEMIC SHOCK In studies on 34 anesthetized dogs made oligemic by acute hemorrhage, autologous and non-autologous plasma were equally effective as plasma volume expanders. Under these conditions there was no problem with the foreign protein type reactions reported with nonautologous plasma used in normo-volemic animals. The reaction seen in normal dogs was histamine-triggered and was suppressed in the oligemic animals by the high level of circulating catecholamines associated with shock. (Elias, G. L., and others: *Comparison of Effectiveness of Autologous and Non-Autologous Plasma in Oligemic Shock in Dog*, *Circulat. Res.* 11: 857 (Nov.) 1962.)

HYPOTHERMIA Patients under profound hypothermia and circulatory arrest for the repair of an intracranial aneurysm show a de-

pression of cardiac function postoperatively for as long as four days. A short period slight of pulmonary dysfunction, and no metabolic acidosis followed a short period of circulatory arrest of eight to ten minutes. (Rehder, K., and others: *Physiologic Studies Following Profound Hypothermia and Circulatory Arrest for Treatment of Intracranial Aneurysm*, *Ann. Surg.* 156: 882 (Dec.) 1962.)

HYPOTHERMIA Excretion of bicarbonate during hypothermia was studied in dogs. There was no significant increase in bicarbonate to account for the fall in arterial pH. The hypothermic kidney is effective in reabsorbing bicarbonate. (Kanter, G. S.: *Bicarbonate Excretion During Hypothermia*, *Canad. J. Biochem.* 41: 91 (Jan.) 1963.)

INFANT HYPOTHERMIA A 2.1-kg. infant was delivered in a cyanotic, apneic, and flaccid condition with a heart rate of 100 per minute. Positive pressure endotracheal ventilation was carried out but no spontaneous respiration occurred for 30 minutes. The infant was subsequently placed in a cold water bath until the body temperature dropped to 24° C. At this point spontaneous respiration occurred with a respiratory rate of three per minute and heart rate of 30 to 40 per minute. Oxygen consumption at this time was half of normal with a measurement of 2.7 ml. per kilogram per minute. Carbon dioxide production was 3.6 ml. per kilogram per minute. Shivering was not observed during the recovery of body temperature which required 16 hours for spontaneous rewarming. No abnormalities in cardiac rhythm were noted in this infant, though they have been reported in adult patients cooled to a similar temperature. (Auld, P. A. M., and others: *Physiologic Studies on an Infant in Deep Hypothermia*, *New Engl. J. Med.* 267: 1348 (Dec. 27) 1962.)

ROCKETRY HYPOTHERMIA With linear reduction in body temperature, there appears to be a logarithmic reduction in metabolism. In a space vehicle, the saving in weight for life-support systems would decrease in exponential fashion and would rapidly amount to significant figures. Other advantages of hypothermia are the protective effect