

lated to the pump oxygenator per se as patients who have not been on bypass but have had massive transfusions during surgery have developed a similar picture. Most likely it is an infectious disease of viral origin. (Reyman, T. A.: *Postperfusion Syndrome. A Review and Report of 21 Cases*, *Amer. Heart J.* 72: 116 (July) 1966.)

SHOCK The effect of norepinephrine, metaraminol, isoproterenol and methoxamine were compared in 17 patients who were in various degrees of shock. Cardiac output increased significantly only with isoproterenol whereas cardiac work and mean arterial pressure increased with all four agents. Central venous pressure, central blood volume, total peripheral resistance and stroke volume increased with norepinephrine and metaraminol. Responses to methoxamine were of two types: (1) Those in which the response was similar to that of norepinephrine and metaraminol, and (2) those in which deterioration of all hemodynamic modalities occurred. This latter group indicates a diminished ventricular reserve which may be amenable to exogenous catecholamine stimulation. (Brown, R. S., and others: *Comparative Evaluation and Sympathomimetic Amines in Clinical Shock*, *Circulation* 34: 260 (Aug.) 1966.)

SHOCK Using the Volemetron in dogs, there was no quantitative relation between a given reduction in blood volume and a fall in central venous pressure measured in the superior vena cava or inferior vena cava. Vasoactive drugs produced changes in central venous pressure of similar magnitude to those produced by large alterations in blood volume. (Keddie, N. C., and others: *Central Venous Pressure, Blood Volume Determinations, and the Effects of Vasoactive Drugs in Hypovolemic Shock*, *Surgery* 60: 427 (Aug.) 1966.)

DEXTRAN With acute blood loss, low molecular weight dextran was found to reduce and finally to eliminate the effect of experimentally induced critical stenosis of the common iliac artery on distal flow and blood pressure. A greater blood loss was also toler-

ated before spontaneous cessation of flow through the constricted artery. (Christopher, E. B., and others: *The Hemodynamic Effect of Low Molecular Weight Dextran in Arteries With Critical Stenosis During Acute Hemorrhage*, *Surgery* 60: 402 (Aug.) 1966.)

pH AND CATECHOLAMINE LEVELS Stimulation of the sympatho-adrenal system, as measured by plasma catecholamine levels, is shown to occur experimentally in response to (1) metabolic acidosis accompanying hemorrhagic shock, (2) respiratory acidosis of apneic oxygenation, and (3) retransfusion with anticoagulant-acid-citrate-dextrose-stored blood. Overstimulation of catecholamines increased peripheral resistance, reducing microcirculation and resulting in increased metabolic acidosis. The response was modified in each study by control of pH. With a tromethamine (THAM) buffered hemodilution perfusate of blood in acid-citrate solution during cardiac bypass, normal arterial pH was maintained with no elevation in plasma catecholamine levels during perfusion. (Malm, J. R., and others: *The Effect of Acidosis on Sympatho-adrenal Stimulation*, *J.A.M.A.* 197: 121 (July) 1966.)

HEMORRHAGIC STATES By means of four simple tests nearly all bleeding conditions can be detected and in many instances definitively diagnosed. They are the bleeding, clotting, one-stage prothrombin, and prothrombin consumption times. There is no justification for routine clotting studies unless the clinical history suggests a possibility of a bleeding state. (Quick, A. J.: *Detection and Diagnosis of Hemorrhagic States*, *J.A.M.A.* 197: 418 (Aug.) 1966.)

BLOOD LOSS ESTIMATION More surgery and more extensive surgery is now being done in small community hospitals. Although complicated and expensive methods of blood volume estimation are not available in such hospitals, blood loss should be assessed. This can be done with three methods which are simple, accurate, and cheap: (1) weighing of sponges; (2) estimation of blood volume with