

SHOCK Moderate or severe shock results from blood loss in dogs after strangulation of a long loop of small bowel. Bowel resection, in addition to blood transfusion, produces a satisfactory survival rate. However, antibiotics are necessary when the shock is severe. In the latter instance, toxic fluid is found in the peritoneal cavity of the dogs. When such fluid is injected into normal dogs, there results a decrease in circulating blood volume, pooling of blood in the intestines, leukopenia, increased hematocrit and the late cardiac failure. Anti-endotoxin agents were found helpful in improving survival rate. (*Barnett, W. O., and others: Shock in Strangulation Obstruction: Mechanisms and Management, Ann. Surg. 157: 747 (May) 1963.*)

ROSE BENGAL I³¹ Employing rose bengal I³¹ instead of rose bengal dye, a method for measuring blood volume and hepatocellular function has been developed which is rapid and simple. Results of the isotope and dye method are essentially identical. The method is safe and free of toxic effects. (*Balkissoon, B., Herr, E. S., and Spellman, M. W.: Measurement of Blood Volume and Hepatocellular Function by a Simple and Rapid Method Utilizing Rose Bengal I³¹, Ann. Surg. 157: 494 (Apr.) 1963.*)

SALT AND SURVIVAL Groups of dogs in hemorrhagic and traumatic shock were treated by replacement transfusion, replacement plus extra blood, plus lactated Ringer's solution, or plus 5 per cent dextrose. The extra fluid was equal to 25 per cent of the extracellular fluid volume. Mortality of the animals who received only blood was 80 per cent; mortality with dextrose solution plus blood was 50 per cent; mortality with lactated Ringer's solution plus blood was 20 per cent. Restoration of extracellular fluid volume with isotonic salt solution contributes materially to survival after hemorrhagic and traumatic shock. Dextrose solution is temporarily valuable; but following metabolism of the dextrose, the remaining free water is osmotically unable to maintain the extracellular fluid volume. Administration of judicious amounts of salt solution also minimizes postoperative anti-diuresis, and helps to protect against renal,

coronary and cerebral vascular insufficiency. The use of large quantities of salt solution, however, may cause overloading and is condemned. (*Wolfman, E. F., Jr., and others: Donor Blood and Isotonic Salt Solution, Arch. Surg. 86: 869 (May) 1963.*)

AUTOGENOUS BLOOD TRANSFUSION Eighty-one selected patients received 118 autogenous infusions of their own blood for operation without complications. Most were bled 4 to 5 days prior, while a few were bled 11 days and again 4 to 5 days before, operation. Advantages included freedom from sensitization, no reactions, and lower handling costs. (*Milles, G., Langstrom, H.: Autogenous Blood Transfusions; Transfusion 3: 149 (Mar.-Apr.) 1963.*) (EDITOR'S COMMENT.— This procedure has been used successfully for patients who object to homologous blood transfusion for religious reasons.)

HOMOLOGOUS BLOOD SYNDROME Following the onset of cardiopulmonary bypass a syndrome of hypotension, followed later by hypovolemia, has been related to the volume of whole blood used in priming the pump. Replacement of 30 per cent of the blood in the pump with any of several common diluents and limitation of bypass duration prevented or greatly diminished the shock syndrome. The latter was attributed to sequestration of blood in lungs, liver, and the portal venous system. (*Gadboys, H. L., and others: Clinical Implications of the Homologous Blood Syndrome, Transfusion 3: 146 (Mar.-Apr.) 1963.*)

PULMONARY CIRCULATION Pulmonary venous admixture (shunting) was determined during air breathing and after breathing 100 per cent oxygen in 6 normal subjects, 15 patients with chronic obstructive pulmonary emphysema, 14 with diffuse pulmonary fibrosis or infiltration and 12 with marked obesity. All groups of patients demonstrated a mean increase in venous admixture relative to the normal subjects. Deep breathing reduced the shunt on oxygen in obese patients, but not in patients with emphysema or pulmonary fibrosis. The shunt component remaining after nitrogen washout could be explained largely by the continued perfusion of alveoli that were