

served with an ACD-IAG solution. The latter consists of 1.34 g. inosin, 0.034 g. adenosin and 0.071 g. guanosin, added to 100 ml. ACD solution. Its activity serves to maintain the ATP content of the red cells, decrease the degree of spontaneous hemolysis and preserve intracellular potassium levels. Oxygen capacity and hemoglobin was significantly higher in IAG than in ACD stored blood during the first few days of storage while the reverse was observed after two weeks. The oxygen content was significantly higher in IAG than in ACD blood throughout the first three weeks of storage. Oxygen saturation was higher in ACD blood during the first three days, but significantly higher in IAG blood in the second and third weeks. The CO_2 tension in ACD blood was above the tension in IAG blood throughout storage time though both values rose by about 50 per cent within four weeks. Oxygen tension was significantly higher in IAG blood. The fall of pH in both IAG and ACD blood was parallel: a fall from 7.0 to 6.45 for ACD blood compared to a fall from 7.1 to 6.35 for IAG blood over a period of four weeks, e.g., a somewhat steeper rise of acidity for IAG blood. The shift of the oxyhemoglobin dissociation curve in IAG blood was to the right and ACD blood to the left as compared with fresh blood. It was concluded that stabilization of blood conserved by IAG offers advantages over conservation with ACD in regard to metabolism and function of the red cells. (Broghammer, H., and Fritzsche, W.: *Blood Gas Analysis of Bank Blood Stored in Plastic Bags with Stabilization by ACD and IAG Solutions*, *Klin. Wschr.* 44: 519 (May) 1966.)

CLOTTING IN OUTDATED PLASMA

Assays of several clotting factors were performed on outdated plastic bag, blood bank plasma 25 to 36 days old and after four months of storage of aliquots at 4° C. and -20° C. Findings suggest that outdated blood bank plasma screened for satisfactory AHG levels may be used directly for therapy or as a source of concentrated AHG fractions. It was estimated that approximately 10 per cent of the blood bank blood in the U. S. is discarded annually because of outdated. Utilization of 10 per cent of the plasma from this

blood would provide perhaps as much as 50,000 units of plasma annually for replacement of clotting factors. (Rosenthal, R. B., and Sloan, E.: *Assay of Clotting Factors in Outdated Blood Bank Plasma and Its Potential Use for Therapy in Hemophilia and Other Hemorrhagic Dyscrasia*, *Transfusion* 6: 289 (July) 1966.)

PLASMAPHERESIS Levels of clotting factors compatible with normal hemostasis can be achieved in the plasma of patients with severe congenital deficiencies by transfusion of large amounts of fresh frozen plasma after prior reduction of the plasma volume of the patient by plasmapheresis. The increasing availability of antihemophilic factor concentrates may perhaps leave few indications for the plasmapheresis techniques described in this report, but it remains available for emergencies when no other adequate source of antihemophilic factor is available, and routine plasma transfusions are inadequate. (Perkins, H. A.: *Plasmapheresis of the Patient as a Method for Achieving Effective Levels of Plasma Coagulation Factors Using Fresh Frozen Plasma*, *Transfusion* 6: 293 (July) 1966.)

EXTRACORPOREAL CIRCULATION

A conference on the use of blood and blood substitutes for extracorporeal circulation was held at the National Academy of Sciences, June 18, 1965. The purpose was to review the choice of perfusates to prime pump-oxygenators for cardiopulmonary bypass. The conclusions were as follows: (1) The need for blood banking and other medical resources to obtain blood for extracorporeal circulation reduces the amount of time which can be applied for the performance of other essential functions with general transfusion services. (2) Reports available offer no evidence that whole homologous ACD blood suitably modified with heparinized calcium chloride and properly buffered immediately before use could not provide good results in cardiac surgery if used within four days of collection. (3) The use of homologous whole blood especially in large amounts involved several difficulties: (a) hepatitis, (b) a syndrome during the third to sixth