

hydrogen ions will be liberated again, and may thus influence the acid-base status, when the blood is resaturated. (Woestijne, K. P., and others: *Changes in Oxygen Saturation and Acid-Base Equilibrium During Ventilatory Standstill in Dogs, Surgery* 53: 332 (Mar.) 1963.)

#### COAGULATION AFTER PERFUSION

During extracorporeal circulation employing the DeWall bubble oxygenator and the disc oxygenator, prothrombin, proaccelerin and thromboplastin generation are impaired while the patient is heparinized. Neutralization of the heparin usually restores these factors to normal levels in the immediate postoperative period. Severe hemorrhage was due to low fibrinogen levels and increased fibrinolytic activity. (Phillips, L. L., Malm, J. R., and Deterling, R. A.: *Coagulation Defects Following Extracorporeal Circulation, Ann. Surg.* 157: 317 (Mar.) 1963.)

**HYPOTHERMIA** Profound hypothermia at less than 12° C. in 16 patients subjected to open-heart surgery for repair of aortic valve lesions showed postoperative brain trauma. Recovery took place in 75 per cent of these within four months. In a comparable series of patients, no brain damage occurred postoperatively when hypothermic temperatures were in the range of 24° to 33° C. There is no indication for the use of hypothermia below 15° C. (Egerton, N., Egerton, W., and Kay, J. H.: *Neurologic Changes Following Profound Hypothermia, Ann. Surg.* 157: 366 (Mar.) 1963.)

**CARDIOVASCULAR RESEARCH** Experimental data are applicable without reservation only to the specific conditions under which they were collected. The use of general anesthesia on animals to perform the same procedures that are routinely accomplished on human subjects with only topical anesthesia may complicate interpretation of experimental observations. Changes in function induced by an investigator during physiologic experiments indicate potential rather than actual mechanisms. The responses to artificially induced loads indicate what can happen rather than what does happen during normal spontaneous reactions. (Rushmer, R. F., and others: *Some Axioms,*

*Popular Notions and Misconceptions Regarding Cardiovascular Control, Circulation* 27: 118 (Jan.) 1963.)

**SLUDGING** Sludging during hypothermia can be prevented by maintaining an arterial pressure above 50 mm. of mercury. Blood changes which accompany hypotension in surface cooled animals are reversible and are not like the persistent sludging which is a feature of infections, burns, and severe trauma. These changes are those of microcirculatory slowing and stasis related to low arterial pressure. (Keen, G., and Gerbode, F.: *Observations on the Microcirculation During Profound Hypothermia, J. Thor. Cardio. Surg.* 45: 252 (Feb.) 1963.)

**INDUCED HYPOTENSION** Plegarol has been used in 288 patients to induce hypotension. It is believed to be far superior to Arfonad. Given intravenously, the onset is rapid; given intramuscularly, onset and duration of effect are prolonged. Small doses given intramuscularly can lower the blood pressure to about 80 mm. of mercury for several hours. It has been used for as long as three days following surgery. Conscious patients tolerate it quite well and sympathomimetic drugs counteract its effect immediately. (Vogrin, G.: *Prolonged Controlled Lowering of Blood Pressure with Plegarol in Cases of Acute Brain Trauma and Neurosurgery, Muenchener Med. Wschr.* 105: 531 (Mar.) 1963.)

**SHOCK** As measured by the radioisotope dilution principle, average blood volume deficit in 24 animals subjected to endotoxic and irreversible hemorrhagic shock was 7 per cent. In experimental endotoxic shock and after prolonged transfusion following hemorrhagic shock, blood volume was not altered sufficiently to account for death on the basis of hypovolemia alone. (Grable, E., and others: *Blood Volume in Experimental Endotoxic and Hemorrhagic Shock, Ann. Surg.* 157: 361 (Mar.) 1963.)

**SHOCK** Fibrinogen in the normal dog is not affected by fibrinolysin in doses of 2,000 MSD U./kg. A marked decrease in fibrinogen is produced by fibrinolysin in dogs in hemorrhagic shock and irreversibility is inhibited. Change