

of the blood. In order to prevent this a double lumen catheter has been devised, one lumen for aspiration of secretions and one lumen for insufflation of oxygen. The cross section of the aspiration duct is 4 mm.<sup>2</sup>, and that of the oxygen insufflation channel is 1.5 mm.<sup>2</sup> This allows insufflation of flow rates exceeding 15 liters per minute. The lumen of the aspiration duct is siliconized; its aperture is at the tip of the catheter, while the aperture of the insufflation part is 6 cm. above the tip. (Binet, J. P., and Bochet, M.: *Double Lumen Catheter for Endotracheal Aspiration and Oxygen Insufflation*; *Presse méd.* 65: 1557 (Sept. 28) 1957.)

**OPEN CARDIAC SURGERY** Hypothermia and extracorporeal circulation employing a pump-oxygenator offer two distinct methods for accomplishing direct vision cardiac surgery. Neither method is ideal, but each has characteristic advantages and disadvantages. Although a variety of extracorporeal oxygenator systems are in use, the bubble method and the screen or rotating-disk type of apparatus have received widest clinical trial. The semipermeable membrane and homologous lungs have had some clinical application, and recently a promising method involving use of the animals' own lungs has been studied experimentally. Aside from technical problems related directly to operation of the pump, special consideration must be given to the control of heparinization and body temperature. Operative mortality has not been prohibitive, but it is high, and the inherent technical and mechanical difficulties are sufficiently serious to preclude use of total cardiopulmonary by-pass methods for those lesions which may be treated effectively by existing closed techniques. (Keown, K. K., Gilman, R. A., and Bailey, C. P.: *Open Heart Surgery: Anesthesia and Surgical Experiences*, *J. A. M. A.* 165: 781 (Oct. 19) 1957.) (Reviewer: This is an unusually clear, concise and valuable review article. The fine bibliography is arranged with regard to historical development.)

**METABOLIC ACIDOSIS** Metabolic acidosis due to decreased circulation occurring during open-heart operation is not

manifested during operation because of excess removal of carbon dioxide by the anesthetist and the heart-lung machine. The greatest fall in pH was found to occur within the first six hours after the hypotensive episode. This postoperative metabolic acidosis could be alleviated by slow intravenous administration of 4.5 mEq. of sodium bicarbonate per kilogram of body weight. (Ito, I., Faulkner, W. R., and Kolff, W. J.: *Metabolic Acidosis and Its Correction in Patients Undergoing Open-Heart Operation*, *Cleveland Clinic Quart.* 24: 193 (Oct.) 1957.)

**POSTOPERATIVE CARE** A qualified team in constant attendance is mandatory for patients after open-cardiotomy, especially for children. (1) Minimal metabolism to lessen cardiac work is established by avoiding strain or emotional stress, administration of sedatives and regulation of body temperature. (2) Cardiovascular stability is maintained by close balance between blood lost and that transfused, hemoglobin and hematocrit determinations, frequent recordings of blood pressure, pulse and electrocardiographic tracings, and determinations of the clotting times. (3) Optimal respiratory function is maintained by use of cold humidified oxygen, prevention of significant laryngeal edema, aspiration of pulmonary secretions, chest roentgenograms, gastric tube to prevent distention, slight underhydration, and prevention of metabolic acidosis. (Knight, H. F., Jr., and Efler, D. B.: *Postoperative Care of Open-Cardiotomy Patient*, *Cleveland Clinic Quart.* 24: 204 (Oct.) 1957.)

**SHOCK** A series of 22 patients undergoing major surgery developed a period of hypotension from less than 1 hour to 8 hours' duration of 25 per cent or more reduction in systolic blood pressure. The concentration test as a measure of renal tubular function and the urea clearance test as a measure of glomerulo-tubular function were performed periodically to determine the effect on renal function. No change in renal function occurred in 13 patients in whom hypotension was present for a period of one hour or less. The other 9 showed alterations in the urea