

tracheal Suction, and Oxygen Insufflation, Alone and in Combination, Upon Arterial Oxygen Saturation in Anesthetized Patients, J. of Lab. & Clin. Med. 53: 680 (May) 1959.)

CARDIAC CATHETERIZATION One hundred years ago, J. B. A. Chauveau, then Professor of Physiology at the School of Veterinary Medicine in Lyon (France), published the result of investigations on heart catheterization in horses. The slow rate of the heart allowed easy graphic recording of the events. Two catheters, made by himself, were introduced through the vessels of the neck, one into the left ventricle by way of the carotid artery, the other one into the right ventricle by way of the jugular vein. Calibrations gave an approximate idea of the values of pressures during the cardiac cycle. Chauveau also gave the interpretation of the sounds of the heart. (Ruckebusch, Y.: *In Connection with Centenary: J. B. A. Chauveau and Intracardiac Hemodynamics*, *Presse méd.* 67: 1167 (June) 1959.)

EXTRACORPOREAL CIRCULATION A heart-lung machine able to deliver blood 98–100 per cent saturated with oxygen at a rate of 6 liters per minute is described. The oxygenator is made of a siliconized nylon membrane which braces a revolving drum. Oxygen is vaporized within the drum with an aerosol composed of a phosphate buffer solution at a pH of 7.4. The blood circulates over the external surface of the drum. The oxygen dissolved in the buffer solution passes through the micropores of the siliconized membrane into the blood. None of the buffer solution is able to diffuse into the blood. The pump maintains a pulsatile type of flow during the period of extracorporeal circulation. The membrane is disposable. The other parts of the apparatus are sterilized with ethylene oxide. (*Thomas, J. A.: Heart-Lung Machine with Artificial Pulmonary Membrane, Compt. rend. Acad. Sc. 248: 291 (Jan.) 1959.*)

CARDIAC ARREST Two cases of acute cardiac arrest are reported in humans in which there was evidence of irreversible changes of the brain by microscopic examination. The

anoxia resulting from cardiac arrest has a varied effect upon the different parts of the central nervous system. The cortex of the brain and cerebellum appears to be most sensitive to oxygen deficiency. As the period of anoxia is prolonged, the changes are more diffuse and there is less selectivity. (Mandel, M. M., and Berry, R. G.: *Human Brain Changes in Cardiac Arrest*, Surg., Gynec. & Obst. 108: 692 (June) 1959.)

MITRAL COMMISSUROTOMY. Twelve patients who underwent commissurotomy were evaluated clinically and catheterized 7 days before and 10-90 days and 8-30 months following operation. Though all had definite improvement all had some residual postoperative stenosis. All patients were alive 4½-6 years after operation. Only 3 have failed to maintain or increase clinical improvement. Of these 2 showed severe stenosis at reoperation. All 3 showed increased stenosis at recatheterization. One is suspected of having had recurrent rheumatic endocarditis. (Lyons, W. S., and others: *Early and Late Hemodynamic Effects of Mitral Commissurotomy*, J. Lab. & Clin. Med. 53: 499 (April) 1959.)

CARDIAC ARRHYTHMIAS While recognizing that arrhythmias may be due to many causes and that proper treatment is to correct the cause and to restore oxygen and carbon dioxide tensions to normal as quickly as possible, lidocaine was found to be a most useful drug in correction of cardiac arrhythmias. It was used in over 500 cases in doses from 40-80 mg. and repeated 6-8 times at intervals of 5-30 minutes without untoward systemic effects. It produced little depression of the pacemaker but it did produce depression of myocardial irritability, prolongation of the conduction time, the depolarization time and the refractory period. (Hitchcock, P., and Keown, K. K.: *Management of Cardiac Arrhythmias During Cardiac Surgery*, South. Med. J. 52: 702 (June) 1959.)

SHOCK During the year 1958, 609 vials of metaraminol and 701 vials of *l*-norepinephrine were used for various situations, including oligemic shock. There has been no patient on

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