

ACETYL STROPHANTHIDIN In both the normal and failing isolated dog heart a marked increase in contractility was produced by acetyl strophanthidin with no change in either oxygen consumption or efficiency. (Sarnoff, S. J., and others: *Effect of Acetyl Strophanthidin Therapy on Cardiac Dynamics*, *Amer. J. Med.* 37: 3 (July) 1964.)

KOROTKOFF SOUNDS Many theories have been advanced to explain the source of Korotkoff sounds since their description in 1905. A rubber cuff was placed directly around the common carotid artery and rapidly inflated and gradually deflated to produce Korotkoff sounds. Heart sounds and Korotkoff sounds are distinct and separate entities since they are separable in time and are differently influenced by changing the site of the sensing element. Turbulence in flow occurs corresponding with Korotkoff sounds and the vessel wall does not actively participate in the sound production. (Chungcharoen, D.: *Genesis of Korotkoff Sounds*, *Amer. J. Physiol.* 207: 190 (July) 1964.)

CARDIAC INNERVATION Complete excision and re-implantation of the heart was accomplished in 25 dogs with a 28 per cent one-year survival. Total extrinsic denervation appears to persist as long as 11 months in the surviving animals. After one year, vagal stimulation decreases the heart rate and stimulation of the stellate ganglia causes cardiac acceleration; injections of norepinephrine, tyramine and veratrum alkaloids are followed by responses identical to those obtained in normal controls; and catecholamine content of the myocardium returns to normal levels. Appearance of these responses demonstrates that connection has been re-established with the extracardiac nervous system. (Vallee, L. W., Cooper, T., and Hanlan, C. R.: *Return of Neural Responses After Autotransplantation of the Heart*, *Amer. J. Physiol.* 207: 87 (July) 1964.)

ATRIAL FUNCTION The contractile role of the left atrial wall is presently undergoing detailed evaluation. The left atrium acts as a reservoir during ventricular systole, expanding to receive blood from the lungs while the

mitral valve is closed. Even when fibrillating, the left atrium still performs its reservoir function; its efficiency being only slightly reduced by the absence of coordinated muscle contraction. (Grant, C., Bunnell, I. L., and Greene, D. G.: *Reservoir Function of Left Atrium During Ventricular Systole*, *Amer. J. Med.* 37: 36 (July) 1964.)

OCULOCARDIAC REFLEX The Aschner syndrome occurs more often than supposed, as revealed by electrocardiographic studies. Retrobulbar block is not always useful since it may even cause the reflex. The reflex can be caused by stimulation of all external muscles, the conjunctiva, or the capsule of Tenon. In prevention, hypoxia or hypercarbia must not be allowed, intubation is performed and atropine is given in doses high enough to cause tachycardia. (Eyrich, K., and others: *Oculocardiac Reflex and Problems of Anesthesia in Operation for Strabismus in Childhood*, *Klin. Mbl. Augenheilk.* 145: 66 (Aug.) 1964.)

NEWBORN HYPOGLYCEMIA In newborns there is often a low blood sugar level existing after delivery up to the third or fifth day. It may be down to 15-40 mg. per cent (normally 50-75 mg. per cent) especially in children of diabetic mothers and in prematures. Apnea and convulsions occur if the mother was eclamptic. There is no real hyperinsulinism, no cortical insufficiency of suprarenal origin and no liver damage responsible for this hypoglycemia. Therapy consists of 10 per cent dextrose into the umbilical or a scalp vein. Cortisone may be useful and also sodium bicarbonate. (Rominger, E.: *Hypoglycemia in the Newborn*, *Arch. Kinderheilk.* 170: 209 (July) 1964.)

LATERAL POSITION Bronchspirometric studies show that in the lateral position the lower lung is better ventilated during spontaneous breathing. Minute volume, tidal volume and oxygen consumption is increased, while the upper lung has increased residual air and ventilation is less effective. If one lung has a tumor which is compressible nothing is changed, but noncompressible tumors in the lower lung make respiration less effective; if they are small, both lungs are ventilated

equally, if they are large the dependant lung has the poorest ventilation. (Steinmann, E. P.: *Bronchspirometric Studies in the Lateral Position*, Beitr. Klin. Tuberk. 128: 159 (July) 1964.)

RESPIRATORY OXYGEN Oxygen consumption was 1.8 ml./liter of ventilation in patients with normal weight. In patients with a weight of 30 kg. on the thorax and abdominal wall, consumption was 3.4 ml., in patients with adiposity 2.9 ml., in Pickwickians 25.7 ml. and in emphysematous patients without respiratory insufficiency 17.8 ml. Respiratory insufficiency is not caused by adiposity but hypoventilation and hypercapnia develop in adipose patients with even slight degrees of bronchial stenosis because they have a higher need for oxygen. In bronchial stenosis, emphysema and the Pickwickian syndrome, the respiratory center is less sensitive to carbon dioxide. (Scherrer, M.: *Oxygen Consumption and Arterial Carbon Dioxide Tension in Normal Patients, Adiposity and Emphysema Before and During Voluntary Hyperventilation*, Helv. Med. Acta 31: 111 (July) 1964.)

NEWBORN VENTILATION Newborns and infants have a higher sensitivity of the respiratory center than adults and the slope of the sensitivity curve is steeper. The greatest difference exists between newborns and children up to two years but even after six years values do not reach those of adults. Newborns and small children have a lower base reserve. Babies have an apnea point of 24 mm. P_{CO_2} , pH 7.57 and bicarbonate 19.2 mEq. There is a decrease in respiratory sensitivity during sleep depending on the depth of sleep. Babies can tolerate 2 per cent carbon dioxide inspiratory concentration for only 5 minutes without signs of carbon dioxide narcosis. (Grusz, K. J.: *Sensitivity of the Respiratory Center in Children up to 6 Years*, Pflüger. Arch. Ges. Physiol. 280: 193 (June) 1964.)

THORACOTOMY Acid-base studies were performed during lung operations. With manual ventilation there is more fluctuation in pH and P_{CO_2} and respiratory acidosis may occur. Respiratory acidosis is a consequence of premedication and relaxants up to two hours

after operation; thereafter, it is an indication of complications (atelectasis, bronchopneumonia). Using the nomogram of Engström-Herzog with the Engström respirator, alkalosis occurs during operation. Respiratory alkalosis on the first and second day may be a sign of hypoxia. Metabolic acidosis is found consequent to shock or hyperventilation. Metabolic alkalosis may be compensatory due to respiratory or metabolic acidosis during or after surgery. Metabolic alkalosis must be avoided because of the known dangers of hypoventilation after surgery. (Quarz, W.: *Gas Exchange and Metabolic Disturbances During and After Lung Operations*, Praxis Pneumol. 14: 521 (Aug.) 1964.)

SMOKING One cigarette has the same effect as work of 20-25 watts in smokers and 10-15 watts in nonsmokers on blood pressure, work of the left ventricle, and pulse frequency. In coronary insufficiency, half a cigarette can do the same as work, cold, or fright in causing an attack. (Klensch, H.: *Effect on Circulation and Strain to the Heart in Smoking Cigarettes*, Arch. Kreislaufforsch 44: 1 (June-July) 1964.)

SHOCK Continuous infusion of angiotensin II in normotensive cat preparations failed to produce a sustained increase of ventricular contractility. In contrast, norepinephrine consistently produced a large sustained improvement in ventricular performance. Responses of preparations in which mean aortic pressure was reduced to 35-45 mm. of mercury for one hour or less were comparable to those seen in the normotensive preparations. Norepinephrine response in the group subjected to hypotension up to 90 minutes was similar to that of the group in which hypotension was maintained for a longer period. (Downing, S. E.: *Effects of Angiotensin II and Norepinephrine on Ventricular Performance During Oligemic Shock*, Yale J. Biol. Med. 36: 407 (June) 1964.)

ANTIEMETIC In a double-blind study, trimethobenzamide (Tigan) hydrochloride 200 mg. and placebo were administered intramuscularly in random order immediately after induction of anesthesia to 60 children ranging in age from 1½ to 12 years undergoing adeno-