

its degradation, causes accumulation of serotonin. This is associated with agitation, psychosis and other forms of abnormal behavior. Chlorpromazine and Phenegan may produce their tranquilizing effects by specifically antagonizing serotonin. (Page, I. H.: *Serotonin (5-Hydroxytryptamine)*; *Last Four Years, Physiol. Rev.* 38: 277 (April) 1958.)

PITRESSIN SUBSTITUTE Realizing the serious coronary constriction that Pitressin may produce but still needing a hemostatic agent to facilitate uterine operations such as myomectomies, the authors investigated vasopressin, isolated from hog pituitaries. When they injected a solution of 0.2 unit per milliliter into the operative site, they obtained blanching of the uterus for 15 to 20 minutes. Blood loss was remarkably reduced and there were no cardiac, circulatory or other significant complications. (Dillon, T. F., and others: *Vasopressin as Hemostatic in Gynecologic Surgery, Obst. & Gynec.* 11: 363 (April) 1958.)

PLACEBOS An attempt has been made to describe lesser known aspects of the "pharmacology" of placebos by describing the ways in which the clinical use of inert substances may lead to effects which are usually considered to be the exclusive property of active agents. One of the basic indices of pharmacologic activity is the time-effect relationship. Placebos can also show this behavior. A comparison is made between aspirin and a placebo. Although the mean score for the placebo relief was somewhat lower the difference was not statistically significant. Placebos may also show a "build-up" in effect, and there may be a "carry-over" after cessation of therapy. Another general characteristic of drugs is the inverse relationship of their efficacy to the severity of a given complaint. This relationship for placebos has also been apparent. This finding is somewhat at variance with the report of Beecher who found that patients studied early in the postoperative period are handled almost as well by placebo as by morphine, whereas later in the postoperative course morphine performs much better than the placebo. (Lasagna, L., Laties, V. G., and Dohan,

J. L.: *Further Studies on "Pharmacology" of Placebo Administration, J. Clin. Invest.* 37: 533 (April) 1958.)

PREANESTHETIC MEDICATION Data obtained in a blind study of morphine, meperidine, alphaprodine, secobarbital and saline solution as preanesthetic medications in 1,400 surgical patients showed that secobarbital led to a higher proportion of calm, carefree, yet alert patients than did the narcotics. Undesirable side effects were seen more often after preanesthetic narcotics than with secobarbital. There was little difference in the influence of the various drugs upon satisfactory induction of anesthesia with any given anesthetic agent. Preanesthetic drugs did not appear to influence maintenance of anesthesia, except that respiratory depression was more common if a preanesthetic narcotic had been given. Patients who received preoperative narcotics remained narcotized longer after anesthesia than those who received secobarbital or saline, but they did not complain of pain as often nor appear as restless as the latter group. Of the drugs studied, dosages considered to be equivalent were: morphine, 5 mg.; meperidine, 30 mg.; alphaprodine (Nisentil), 30 mg.; secobarbital (Seconal), 75 mg. (Eckenhoff, J. E., and Helrich, M.: *Study of Narcotics and Sedatives for Use in Preanesthetic Medication, J. A. M. A.* 167: 925 (May 24) 1958.)

NALORPHINE The outstanding differences in the human pharmacology of nalorphine as compared with morphine are: (1) relative low potency of single doses of nalorphine in inducing sedation; (2) lesser degree of pupillary constriction, depression of temperature, depression of respiratory rate, and minute volume after single doses of normorphine; (3) marked accumulation of sedative effects of nalorphine during repeated administration, and (4) relatively slow onset and mildness of the abstinence syndrome after withdrawal of nalorphine. (Fraser, H. F., and others: *Human Pharmacology and Addiction Liability of Normorphine, J. Pharmacol. & Exper. Therap.* 122: 359 (March) 1958.)

LEVALLORPHAN The addition of levallorphan to meperidine, in a 1:100

ratio, affords considerable protection against narcotic induced respiratory depression. (Margolis, B. and Kepes, E.: *Meperidine—Lecallorphan in Anesthesia, Am. J. Surg.* 95: 787 (May) 1958.)

MORPHINE POISONING The effect of bromides was investigated in white mice injected with a lethal dose of morphine (12 mg.). The influence of various doses of sodium bromide on the survival of the mice was determined. Bromides in a dosage of 0.3 mg. protected 70 per cent of animals from death. A second series of experiments studied the effect of prior administration of bromides upon the symptoms of morphine intoxication. Prior administration of sodium bromide prevents the development of the most characteristic signs of morphine poisoning in dogs (vomiting) and in cats (excitement). Bromides are therefore indicated in cases of morphine intoxication and of morphine addiction. In rats, the administration of bromides significantly reduces the analgesic effect of morphine and lowers the threshold of the tail reaction and the squeak reaction to stimulation by an induction current. (Meshcheryakov, A. N.: *Antagonism of Bromides and Morphine, Farm. i Toks.* 5: 22 1956.)

HYPOXIA Heart rate and blood pressure of the fetal lamb *in utero* were studied when the latter was subjected to mild and severe hypoxia. This was accomplished by having the ewe breathe 13 per cent, 10 per cent and 6 per cent oxygen. In this study the heart rate usually became slow with hypoxia, and the more severe the hypoxia, the greater the frequency of this response. However, cardiac acceleration may occur, or the heart rate may return to normal. Thus heart rate alone is not a valid criterion of anoxia. Changes in the blood pressure were in both directions. At the 6 per cent oxygen level when the heart rate decreased to 140–160 beats/minute, the blood pressure fell. Fetal stroke volume does not suffer until fetal blood oxygen goes to near 12 mm. of mercury tension. Blood pressure is more useful than pulse rate as an indicator of the effect of hypoxia on the fetus. (Reynolds, S. R. M., and Paul, W. M.: *Relation to Bradycardia and Blood Pressure of Fetal Lamb In Utero to Mild and Severe Hypoxia, Am. J. Physiol.* 193: 249 (May) 1958.)

HYPOXIA Biochemical investigations were carried out with the aim of elucidating the character of swings in the consumption of oxygen by the tissues and the activities of some enzymes of tissue respiration (succinate dehydrogenase and cytochrome oxidase) in hypoxia, the organism being saturated with vitamins. Thiamine influences preferentially the dehydrogenase activity, particularly in the substance of the basal ganglia of the brain; the changes in the activity of the cytochromic system, usually arising under conditions of hypoxia, are smoothed under the influence of thiamine. The favorable influence of thiamine on the level of resistance of the animals in the experiments is connected to some extent with the activation of tissue enzymes following the administration of this vitamin. (Kosmolinskii, F. P.: *Influence of Thiamine on Tissue Respiration Under Conditions of Hypoxia, Vopr. Pitan.* 15: 73 1956.)

HYPOXIA Vitamins B₁, B₂ and PP increase the endurance of animals in oxygen lack due to a lowered tension in the atmosphere. Under conditions of oxygen deficiency (at reduced atmospheric pressure) the activity of the respiratory enzymes is changed. The degree and pattern of these changes depend on the degree of anoxia and the length of exposure of the animals to the conditions of lowered atmospheric pressure. The administration of vitamins B₁, B₂ and PP before the animals were put into a decompression chamber at the simulated altitude of 11,000 meters prevented to a considerable degree the fall of activity of dehydrogenase and cytochrome oxidase in the liver, kidneys and heart. The activity of dehydrogenase and cytochrome oxidase in the brain appeared to be even greater than under sea level conditions. These experiments have shown that in oxygen deficiency there is an increased need of vitamin B complex by the body. (Udalov, Y. F.: *Action of Vitamin B Complex in Oxygen Deficiency, Vopr. Pitan.* 15: 22 1956.)

OXIMETER A new type of cathodic oxyhaemograph is described free from defects of earlier oxyhaemometers. The measurement is based on photoelectric registration of changes in the spectroscopic properties of hemoglobin; the electromotive force is determined only by saturation