

ratio, affords considerable protection against narcotic induced respiratory depression. (Margolis, B. and Kepes, E.: *Meperidine—Levallorphan 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. (Kosminskii, F. P.: *Influence of Thiamine on Tissue Respiration Under Conditions 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.)

OXYMETER 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