

increased with an abnormal Ca/P ratio of 1 : 8.4. By a combination of both mineral abnormalities of very high Na/K or Ca/P the AC/AO quotient is greatly increased, and is subject to large daily variations, and even tremors of individual muscle-groups are not uncommon. However, food with such an anomalous mineral composition is not well tolerated by the animals, but the effect upon the irritability is not a fasting effect. Neither is it thought to result from the base excess. The failure of the appearance of an increased irritability which is occasionally found in the food with an abnormal mineral composition is attributed to the antitetany influence of the increased Ca/Mg ratio.

S. MORGULIS (Chem. Abstr.).

*The Action of Veratrine, Curare and Strychnine on the Responses of Medullated Nerve.* (Journ. Physiol., vol. lxxix, p. 67, 1933.) Fromherz, H.

Frog sciatic nerve is unaffected or only slightly affected by veratrine, curare or strychnine in concentrations sufficient to cause characteristic effects on muscle-nerve systems. Presumably the drugs do not penetrate into the nerve. When the nerve is completely asphyxiated in hydrogen the drugs penetrate into the nerve, and when oxygen is readmitted the characteristic effects are found.

J. S. LYMAN (Chem. Abstr.).

*Effect of Veratrine on the Heat Production of Medullated Nerve.* (Proc. Roy. Soc., B., vol. cxiii, p. 386, 1933.) Hill, A. V.

In the presence of oxygen 1 : 50,000 veratrine solution has little effect on the heat production of medullated frog nerve. Treatment with veratrine and complete asphyxia, followed by recovery, produces a characteristic effect. The heat production in response to a single shock attains its maximum rate in a few seconds, may be 1,000 times normal in amount, and may last many minutes. Heat production during slow stimulation may be greatly increased. This veratrine effect requires time for its restoration.

J. S. HEPBURN (Chem. Abstr.).

*Cerebral Circulation. XXIV. (A) Action of Epinephrine on Pial Vessels ; (B) Action of Pituitary and Pitressin on Pial Vessels ; (C) Vasomotor Response in the Pia and in the Skin.* (Arch. of Neur. and Psychiat., vol. xxx, p. 957, Nov., 1933.) Forbes, H. S., Finley, K. H., and Nason, G. I.

Pitressin causes dilatation of arteries in the pia, constriction of those in the skin. Epinephrine (adrenaline), by intravenous and intracarotid injection, usually causes a similar response ; when applied locally it causes constriction of arteries in both pia and skin, the reaction appearing to be about four times more intense in the skin than in the pia. Sympathetic stimulation constricts arteries in both situations, in the skin about ten times as strongly as in the pia. Vaso-constriction in the pia (of the kind described) may be overcome by a rise in blood-pressure.

*XXVII. Action on the Pial Arteries of the Convulsants Caffeine, Absinth, Camphor and Picrotoxin.* (Ibid.) Finesinger, J. E., and Cobb, S.

Caffeine convulsions caused by the intravenous administration of large doses were preceded by an acute constriction of the pial artery under observation, a drop in systemic arterial pressure, and a decrease in cerebro-spinal fluid pressure.

Absinth convulsions were preceded by slight constriction of the pial artery, a drop in blood-pressure, and a slight drop or rise in cerebro-spinal fluid pressure. Convulsions following large doses of absinth were, in most cases, preceded by dilatation of the pial artery, a drop in systemic pressure and a rise in cerebro-spinal fluid pressure.

Homocamfin convulsions were preceded by slight constriction of the pial artery, a drop in systemic arterial blood-pressure and, as a rule, a decrease in cerebro-spinal fluid pressure. Monobromated camphor convulsions were preceded by

dilatation of the pial artery, and, as a rule, an increase in cerebro-spinal fluid pressure.

Picrotoxin convulsions were preceded by slight constriction of the pial artery and a decrease in cerebro-spinal fluid pressure. In these last two cases the changes in blood-pressure were inconsistent.

G. W. T. H. FLEMING.

*Cerebral Blood-flow Preceding and Accompanying Experimental Convulsions.* (*Arch. of Neur. and Psychiat.*, vol. xxx, p. 1003, Nov., 1933.) Gibbs, F. A.

Oil of absinth, camphorated oil, picrotoxin, caffeine or an induction shock do not produce convulsions through the general diminution of the cerebral blood-flow caused by them.

G. W. T. H. FLEMING.

*The Permeability of the Meninges due to Absorption.* (*Ann. Méd.*, vol. xxxi, p. 115, 1933.) Riser and Planques.

Insulin, adrenaline and acetyl choline are each absorbed from the subarachnoid space more slowly than from intramuscular injection. They do not produce an effect on the nerves. The ease of absorption depends on diffusibility.

A. E. MEYER (Chem. Abstr.).

*Alcohol Injected Intravenously: Its Penetration into the Cerebro-spinal Fluid in Man.* (*Arch. of Neur. and Psychiat.*, vol. xxx, p. 1092, Nov., 1933.) Mehrrens, H. G., and Newman, H. W.

The intravenous injection of alcohol in man is well suited for studying the psychological effects without the patient being aware of what he has received. After a single dose, the alcohol in the lumbar spinal fluid rises much more slowly than that in the blood, attains its maximum later, and declines more slowly. The alcohol in the cisternal fluid rises promptly and closely approximates that in the blood. If the alcohol in the blood is kept at a constant level for from four to five hours, the alcoholic content of the lumbar and cisternal fluids at the end of this time is equal to, or in excess of, that in the blood-plasma. The higher alcohol content of the spinal fluid as compared with that of the blood plasma may be due to a relative impermeability of the absorbing system to alcohol.

G. W. T. H. FLEMING.

*Inorganic Constituents of the Cerebro-spinal Fluid. IV. The Potassium in Serum, Serum Filtrate and Cerebro-spinal Fluid.* (*Biochem. Journ.*, vol. xxvii, p. 1107, Sept., 1933.) Watchorn, E., and McCance, R. A.

The average cerebro-spinal fluid potassium was 12.05 mgrm. per 100 c.c.; this is always lower than that in the serum, and so lower than that found in serum ultra-filtrates or effusions. The potassium of serum is ultra-filterable, but that of the cerebro-spinal fluid is only 65-70% of that of the serum. These results do not support the view that the fluid is an ultra-filtrate of the blood-plasma. The authors think that the fluid should be compared with the intestinal secretions, which are isotonic with the blood, but contain very different ionic concentrations.

G. W. T. H. FLEMING.

*The Influence of the Brain on the Thymus [Influenza del Cervello sul Timo].* (*Riv. Sper. di Fren.*, vol. lvi, p. 322, June, 1932.) Ciabatti, O.

The author experimented on fowls and dogs. Two months after partial decerebration in fowls he found a marked alteration in the thymus. There was a reduction in number of the cellular elements, and a degeneration of the epithelial cells of the corpuscles of Hassal and a destruction of the connective tissue. The destructive changes reach a maximum after 35 days. In fowls the glandular elements destroyed are not replaced by either connective or fatty tissue, as takes place in the physiological involution of the thymus. In newborn puppies there