

An Attempt to Condition Adrenaline Hyperglycæmia. (Bull. Johns Hopkins Hosp., vol. lx, pp. 400-11, 1937.) Gantt, W. Horsley, Katzenelbogen, S., and Loucks, R. B.

In attempts to condition hyperglycæmia in dogs and rabbits, using adrenaline as the unconditioned stimulus and saline injections and other signals as conditioned stimuli, the results were negative. Some of the other effects of adrenaline were conditioned, indicating that a psychobiological state underlies the conditioning process. A tolerance in respect to blood sugar increase was developed in dogs.

E. W. SCOTT (Chem. Abstr.).

The Influence of Destruction of the Adrenal Medulla on Emotional Hyperglycæmia in Rats. (Amer. Journ. Physiol., vol. cxx, pp. 420-2, 1937.) Harris, Robert E., and Ingle, J. Dwight.

Normal rats show an increase in the level of blood sugar in response to emotional excitation, whereas rats whose adrenal medulla has been destroyed show a decrease in blood sugar under identical experimental conditions. Rats whose adrenal medulla has been destroyed show a marked increase in the level of blood sugar when adrenaline is injected.

E. D. WALTER (Chem. Abstr.).

The Effect of Pyocyanine on the Metabolism of Cerebral Cortex. (Journ. Biol. Chem., vol. cxx, pp. 659-75, 1937.) Young, Leslie.

While the action of pyocyanine has been studied in detail on tumour, a tissue with high aerobic glycolysis, data have hitherto been lacking on its effect on cerebral cortex, a tissue with low aerobic glycolysis. Its action on brain cortex differs in certain respects from that on tumour. In concentrations varying from $2 \times 10^{-3} M$ to $4 \times 10^{-3} M$ pyocyanine causes an initial increase in the oxygen consumption of slices of rabbit cerebral cortex, and this is followed by an inhibition which is very marked with high concentrations of pyocyanine. The inhibitory action is irreversible. The degree to which oxidation is accelerated in brain cortex by pyocyanine is dependent on the nature of the substrate added, the maximum effect being obtained with glucose. No increased oxidation is obtained in the absence of added substrate, and only a slight effect is observed with low tensions of oxygen. Pyocyanine has a marked action on the glycolytic mechanisms of cerebral cortex. High concentrations of the dye cause increased aerobic glycolysis, the onset of which occurs during the period of respiratory stimulation. All concentrations of the dye tested increase anaerobic glycolysis initially, but the effect is maintained only with the lower concentrations. It has little effect on the respiration of cerebral cortex in the presence of $0.001 M$ cyanide. With brain cortex treated with $0.1 M$ KCl, which is known to produce increased respiration and aerobic glycolysis, the initial increase of respiration under suitable conditions due to the combined action of $0.1 M$ KCl and pyocyanine is approximately equal to the sum of their separate effects. It is possible that pyocyanine exerts its oxidative action on some degradation product of glucose other than lactic acid, since some increased oxidation is observed on substrates other than glucose or lactate.

A. P. LOTHROP (Chem. Abstr.).

The Influence of the Central Vegetative System upon Normal and Pathological Mental Functions [L'influence du système végétatif central sur les fonctions psychiques normales et pathologiques]. (L'Encéph., vol. xxxii [ii], p. 75, July-August, 1937.) Monnier, M.

Supporting the theory of Hess, evidence is brought forward to show that in the biogenic psychoses the essential derangement is located in the central neuro-vegetative system. With Hess the author believes the vegetative tone to be a balance between the sympathetic and parasympathetic systems; the former being ergotropic, that is, having a disposition towards effort and action, and the latter being trophotropic, that is, having a disposition to nutrition and assimilation.