

Nous avons trouvé des taux parfois légèrement inférieurs, parfois légèrement supérieurs. C'est ainsi que chez les femelles normales la plus grande quantité de nor-adréraline observée a été de 0.23 $\mu\text{g/g}$, la plus faible étant de 0.18; chez les femelles injectées, le maximum est de 0.25 et le minimum de 0.16. La moyenne des différentes valeurs obtenues est de 0.22 $\mu\text{g/g}$ chez les rats normaux et de 0.20 $\mu\text{g/g}$ chez les animaux soumis à l'action de l'I.D.P.N.

Une deuxième série d'expériences a été entreprise sur la souris. Comme chez le rat, nous n'avons observé que de faibles variations—augmentation ou baisse—de la teneur en nor-adréraline du tissu cérébral de la souris tournante.

Les résultats que nous avons obtenus montrent donc que la nor-adréraline du tissu cérébral ne subit pas de variations importantes lorsque le syndrome excito-moteur se constitue.

32b Nor-Adrenalin Content of the Cerebral Tissue of Animals under the Influence of Aminodipropionitril. M. BEAUVALLET and J. FUGAZZA.

In 1952 Delay *et al.* found that aminodipropionitril: $\text{HN} = (\text{CH}_2\text{-CH}_2\text{-CN})_2$ (IDPN) causes permanent motor agitation in the mouse; the animal shows generalized activity and a strong tendency to turn in circles.

Rats, submitted to injections of this substance react in a similar way; they show disturbances of motor co-ordination and loss of equilibrium.

In the present investigation we studied the nor-adrenalin content of the brain tissues of rats and mice before and after the injection of I.D.P.N.

The first experiments were performed on rats of the Wistar strain, weighing 60–100 g; 3 groups of 6 females and 1 group of 6 males received 2 intraperitoneal injections of I.D.P.N. at intervals of 48 hr.

The cerebral tissue was removed as soon as the motor-excitation syndrome appeared. At the same time the brain of a normal animal of the same litter, sex and weight was removed.

The results obtained by us show that the nor-adrenalin level in the cerebral tissue of the male or female rat, subjected to the action of I.D.P.N., is similar to that of normal animals. The values obtained were either slightly lower or slightly higher. Thus, the largest amount of nor-adrenalin found in normal females was 0.23 $\mu\text{g/g}$, the lowest was 0.18; in injected females the maximum was 0.25 and the minimum 0.16. The mean of the different values obtained in normal rats was 0.22 $\mu\text{g/g}$ and in animals which had been given I.D.P.N. it was 0.20 $\mu\text{g/g}$.

A second series of experiments was carried out with mice. As in rats, only slight variations (increases or decreases) in the nor-adrenalin content of the brain tissues of revolving mice was found.

The results obtained by us show that nor-adrenalin in the cerebral tissues does not undergo

any important variations while the motor-excitation syndrome develops.

33 The Effect of Eserine on the Activity of Adrenergic Nerves in the Rat. V. VARAGIĆ, R. LEŠIĆ, J. VUCO and B. STAMENOVIĆ (Yugoslavia).

It has been repeatedly found that eserine raises the blood pressure of the rat anaesthetized by urethane (Varagić, 1955; Dirnhuber and Collumbine, 1955; Hornykiewicz and Kobinger, 1956) as well as of the conscious rat (Medaković and Varagić, 1957). Several factors influencing this effect of eserine have been studied. Pretreatment with reserpine regularly abolished the hypertensive response to eserine. The slow intravenous infusion of noradrenaline, L-DOPA and 5-hydroxytryptamine restored the hypertensive effect of eserine only occasionally. Bretylium and choline 2:6-xylol ether bromide significantly depressed or abolished the hypertensive effect of eserine. Cocaine was found to antagonize the action of bretylium. In doses which depressed the action of eserine bretylium did not inhibit the hypertension due to excitation of medullary centres induced by clamping the common carotid arteries. Pretreatment with isopropylisozid did not antagonize the inhibitory action of reserpine on the hypertensive response to eserine.

Similar results were obtained by recording the electrical activity in the sympathetic fibres in the mid-cervical region. It is concluded that the available evidence indicates that the hypertensive effect of eserine in the rat is due to central activation of adrenergic nervous elements. Liberation of noradrenaline (and adrenaline) from the adrenals and from the blood vessels by eserine does not play a significant role in causing the hypertensive effect of eserine.

34 The Relation between Structure and Central Nervous Action of some Hydrazine Derivatives. A. SPINKS and E. H. P. YOUNG (United Kingdom).

About 300 derivatives of hydrazine have been prepared and examined by several biological tests for activity on the central nervous system and particularly for their ability to cause hyperactivity in mice subsequently injected with reserpine. The compounds tested included both straight and branched chain aralkylhydrazines and their acyl derivatives, bis-aralkylhydrazines and aryloxy-alkylhydrazines. The effect of these structural changes, and especially of nuclear substitution, on biological activity has been studied and some relationships have been observed.

It was found that the most promising compound in respect of activity and low toxicity was α -methylbenzylhydrazine (α -phenylethylhydrazine). Nuclear substitution in this and other classes usually reduced activity, and 3:4-dichloro-substitution of many