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COMMUNICATIONS

In communications with more than one author, an asterisk (*) denotes the one who presented the work.

Some properties of a behaviour-depressing material obtained from mammalian brain

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At a previous meeting of the British Pharmacological Society (January, 1967) it was reported that a high molecular weight material was present in mammalian brain which caused a loss of righting reflex. When injected intravenously or intracerebrally into mice, rats or rabbits recovery of the righting reflex was followed by prolonged behavioural depression. The activity is found in the brain and spinal cord of eight mammalian species, including man, but is absent from non-nervous tissue. The ED₅₀ ranges from 150 mg/kg for the whole rat brain to 6 mg/kg for the frontal cortex of the human brain. During the loss of righting reflex the cortical e.e.g. is markedly depressed, and this period is associated with a reduction in brain ATP, creatine phosphate, glucose and glycogen and an increase in brain lactate levels.

The method of preparation and the partial purification of this material has already been described (Riddell & Leonard, 1968). Subcellular fractionation studies have shown the material to be associated with the microsomal fraction of nerve cells. Further purification with Sephadex columns suggests that the activity is associated with a non-dialysable compound (molecular weight 100-150,000). Behavioural depression is produced within 30 sec of intravenous injection into mice, so either the material readily penetrates into the brain unchanged or the activity is associated with a smaller molecule combined with brain proteins. The latter explanation is probably correct, for after pretreating the partially purified material with trypsin, the activity is associated with dialysable material (molecular weight 10,000). Further details of the composition and properties of the active material will be presented.

REFERENCE

RIDDELL, D. & LEONARD, B. E. (1968). Some properties of a pharmacologically active compound isolated from nervous tissue. *Biochem. J.*, **106**, 14P.

Evidence for the humoral control of the hypothalamic-pituitary-adrenal axis

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The activity of the pituitary gland is regulated by the hypothalamus through the release of specific neurohumoral agents into the pituitary portal vessels. The hypo-