

cells in the area involved rather than inhibition of the normal activity of these cells.

A study of blood chemistry is being made but more data are required before the findings can be reported.

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**Localized Cell Destruction and Degenerative Processes in the Brain in Idiopathic Epilepsy.**

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This study is based on 4 brains from patients which were diagnosed as typical cases of idiopathic epilepsy. Celloidin sections were made through the region of the third ventricle and stained with iron-hematoxylin and iron-hematoxylin and neutral red. There is a marked localized distention of the third ventricle from the optic chiasma to the mammillary bodies and extending dorsad to the intermediate commissure of the thalamus. This distortion is due to a shrinkage of tissue in the lateral walls of the ventricle. There is a marked hyperemia confined to the region of the third ventricle.

The following cell groups are affected:

(1) The substantia grisea of the third ventricle is composed normally of small rather closely packed nerve cells in the lateral wall of the ventricle from the optic chiasma to the mammillary bodies and extending upward to the thalamus. These cells mingle laterally with those of the mammillo-infundibular nucleus. In all of the 4 brains studied there is a marked bilateral reduction in the number of cells in this group. Many of the remaining cells show various stages of chromatolysis. There is a marked proliferation of glia cells in some areas. A shrinkage in this cell mass is largely responsible for the distention of the third ventricle.

(2) The mammillo-infundibular nucleus is normally composed of large scattered cells more laterally placed than the substantia grisea and extending from the infundibular region to the caudal level of the mammillary body. The cells are most concentrated around the fornix and lateral to the mammillary body. The cells of this nucleus are considerably reduced in number in the epileptic brains, both sides being affected. A great many of the remaining cells show chromatolysis. In the areas most affected there is

marked proliferation of glia cells which are sometimes seen to invade the dying nerve cells.

(3) The nucleus tuberis is composed of rather large elongated cells arranged into 3 or more groups. These groups of cells lie close to the basalar surface, ventral to the fornix, and extend from the infundibulum to the mammillary body. This nucleus shows considerable cell destruction in all of the epileptic brains. A great many of the remaining cells are chromatolytic. The medial cell groups are usually affected more than the lateral.

(4) The basal optic ganglion is composed of a group of large cells flattened over the lateral, dorsal and medial surfaces of the optic tract near the chiasma. In the epileptic brains studied this nucleus shows a varying amount of chromatolysis but very little if any cell destruction.

The cell groups most markedly affected in the 4 epileptic brains studied are the substantia grisea of the third ventricle, the mam-millo-infundibular nucleus, and the nucleus tuberis. It is believed by the author that these are centers for the control of the thyroid, parathyroid and suprarenal glands. The basal optic ganglion which seems to be concerned to a less degree with epilepsy has been shown by Greving to have fiber connections with the hypophysis.

These findings suggest the possibility that epilepsy may be the result of a functional disturbance of the glands of internal secretion, probably a hypersecretion caused by irritation of the nervous centers in the diencephalon.

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### The Effect of Yeast Upon Metabolism.

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Although several workers have investigated the effect on the metabolism of human subjects of adding yeast to a diet in such quantities as are commonly recommended for therapeutic purposes, the results reported have shown considerable variation. Further studies, with and without yeast, seemed important both for confirmation and additional information.

*Plan of Experiments:* Table I shows the general plan of the 3 experiments. We studied our several subjects over longer periods