

5462

**Lesions of the Nervous System Resulting from a Deficiency of the Vitamin B Complex.****HARRY M. ZIMMERMAN AND ETHEL BURACK.\***

(Introduced by George R. Cowgill.)

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Dogs subsisting on artificial food mixtures complete so far as known except with respect to the vitamin B complex have been shown by Cowgill<sup>1</sup> to develop a syndrome characteristic of lack of the antineuritic vitamin B. Histological examination of both the central and peripheral parts of the nervous system of such animals has been made. In the vagus, brachial and sciatic nerves there was revealed myelin degeneration of a patchy distribution. This demyelination could be demonstrated by the Marchi method, the Spielmeyer frozen-section method, and in Sudan stains. The severity of the pathologic process varied directly with the length of time which elapsed between the onset of the paralytic syndrome and the death of the animal. No evidence of phagocytosis or of a reparative process could be demonstrated in any of the peripheral nerves.

In 3 of the 8 animals studied focal degenerative lesions were found in the cerebrum and pons. These were characterized by destruction of ganglion cells and myelin sheaths, and an extensive proliferation of fat granule cells and blood vessels.

In one animal there was marked glial proliferation in the dorsal columns of the spinal cord similar to that observed in cases of human pellagra. The cords of all the dogs showed focal disseminated zones of demyelination like those described by Gildea, Kattwinkel, and Castle,<sup>2</sup> but inasmuch as the latter lesions were demonstrable only by the Pal-Weigert and the Spielmeyer techniques and not by the Marchi method or Sudan stains, it is possible that they are artifacts. Further experiments designed to answer this question are now in progress.

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<sup>1</sup> Cowgill, G. R., *Am. J. Phys.*, 1923, **66**, 164.

<sup>2</sup> Gildea, E. S., Kattwinkel, E. E., and Castle, W. B., *New Eng. J. Med.*, 1930, **202**, 523.