

Magendie, or by way of the functioning membrane described by L. Weed. Besides this pathway, according to the studies of Monakow, a drug introduced into the cerebral cavities may pass through the cerebral parenchyma, directly reaching the nervous elements by way of the perivascular and perineuronal spaces. The ventricular fluid reaches the central spinal canal when free of obstructions by direct communication. A drug introduced into the spinal subarachnoid spaces may reach the cerebral parenchyma. In these cases the displacement of the fluid is due to the ascending current mentioned in the experiments of Quincke, Ahrens, Dandy and Blackfan, Solomon, Thompson and Pfeiffer, Marinesco and Draganesco.

A drug introduced into the subarachnoid spaces may reach the central nervous parenchyma, passing from the exterior toward the interior, as shown by Marinesco, Draganesco, Lafora, Prados Such, Dixon and Halliburton, Syursberg, Fleischmann and Weed. Such a penetration is greater if the medicament is introduced under a high pressure or after the use of intravenous injections of hypertonic salt solutions. Furthermore, Kramer claims the existence of an ascending current in the central spinal canal, so that the fluid reaching this canal from the subarachnoid spaces may transport upward any drug present in the fluid.

The fluid may reach the arterial circulation indirectly by way of the perineural lymphatics, or by venous absorption as emphasized by Weed.

From the theoretical point of view, intraventricular and intraspinal therapy is justified by the experiments of many authors who have established the possibilities of a dye reaching the nervous parenchyma. From a practical point of view intraspinal therapy allows a medicament to reach the nervous tissue directly and immediately.

G. W. T. H. FLEMING.

General Paralysis: The Histopathology of the Basal Ganglia, Corpus Callosum and Dentate Nucleus in Four Cases. (*Arch. of Neur. and Psychiat.*, February, 1927.) Houlton, T. L.

In four cases the author examined the basal ganglia and dentate nucleus and found very constant pathological changes, consisting of perivascular infiltration with small-cells, plasma-cells and large lymphocytes. Satellitosis was often present with neuronophagia. Rod-cells were common. Many nerve-cells contained no nucleus and the cytoplasm stained faintly. The author thinks that the speech disturbance, the expressionless facies and the fine tremors about the eyes and mouth may be due to the changes in the basal ganglia.

G. W. T. H. FLEMING.

Malignant Hypernephroma Coincident with Arterio-sclerosis in Children. (*Journ. of Nerv. and Ment. Dis.*, January, 1927.) Dieterle, R. A.

A female child, æt. 4½, had convulsions alternating with a semi-stuporous condition. The blood-pressure was 145-160 mm. Hg.

systolic, and 90–100 diastolic. The spinal fluid was negative. X-ray verified the presence of an abdominal tumour, and operation revealed a malignant hypernephroma at upper pole of right kidney. The patient died. Autopsy showed a very small fibroid thymus. The lungs showed secondary deposits. Section of the tumour revealed a complete absence of normal suprarenal tissue. Some areas resembled a suprarenal cortex, others a medullary carcinoma; others still resembled an angiosarcoma. The ovaries showed, on section, an unusual number of large cystic follicles, but no evidence of menstruation. The brain on examination showed small areas on the surface which appeared softened. The basilar artery showed a small patch of thickening of its wall, and on section some splitting of the elastic layers. The intima was irregularly thickened with a glistening refractive substance, which Herxheimer fat stains showed to contain heavy deposits of lipoids. This patchy intimal thickening partly occluded the vessel lumen. The pia was thickened and cellular, the veins congested and their walls thickened. All the vessels in the cortex showed a marked sclerosis. There were small areas of softening. After discussing possible relations between brain development and the adrenals, and pointing out the association of tuberosc sclerosis with hypernephroma and adenomata of the adrenals and of Alzheimer's disease with hypothyroid states, the author wonders, had this case lived, would it have developed into one of Alzheimer's disease?

G. W. T. H. FLEMING.

The Anatomic-Pathological Basis of the Parkinsonian Syndrome following Epidemic Encephalitis. (Brain, December, 1926.)
McAlpine, D.

In a preliminary summary of the published accounts of the pathology of the Parkinsonian syndrome, the author points out that the consensus of opinion favours the substantia nigra as the chief area affected.

He then gives a summary of present knowledge of the anatomy of the substantia nigra, quoting Foix and Nicolesco. The pigment does not make its appearance until after the first few years of life, and is not abundant until after 20. There are two parts, the zona reticulata, consisting mainly of cell processes, and the zona compacta, which comprises the main body of the substantia nigra. The cells are large and are grouped in three islets—external, middle and internal. The cells of the inner group are small compared with the other two. The pigment is generally grouped into a mass which lies towards one of the poles of the cell. It is from this pole that the axone arises. The efferent fibres fall into two groups. The first comprises those fibres that penetrate into the midst of the pyramidal fibres, and then turn downwards, linking up with the centres lower in the mid-brain. The second group contains those fibres that form the peduncle of the substantia nigra. Some of these fibres mingle with those of the posterior commissure, and serve as commissural fibres between each substantia nigra. They