

of the aqueduct of Sylvius causing sudden, acute, internal hydrocephalus. Repeated paroxysmal attacks of acute, headache, usually referred to the orbital region, neither preceded nor followed by other neurological symptoms, are the most characteristic feature. Any one of these attacks may prove fatal. Associated clinical manifestations of disturbed functions of the diencephalon may be present. Details of methods of diagnosis by ventriculography and encephalography are given and the technique of operative cure is discussed.

J. L. FAULL.

*The Nitrite of Amyl Test for the Differentiation of Tumours of the Brain from Vascular Inflammatory Lesions.* (Bull. Neur. Inst. N.Y., vol. iii, p. 513, March, 1934.) Hare, C. C.

The amyl nitrite test for the determination of changes in pressure of the cerebro-spinal fluid is based on the fact that the inhalation of this drug produces a dilatation of the intracranial blood-vessels, with a consequent forcing of the cerebro-spinal fluid from the cranial cavity into the subarachnoid space of the vertebral canal. The test was applied to 18 cases of cerebral tumour, 22 cases of vascular lesion, 18 cases of chronic inflammatory disease, and approximately 50 cases free, as far as was known, from organic disease of the brain. In 89% of cases of cerebral tumour the rise of the fluid in the manometer was above the 320-mm. level. In 86% of the cases with vascular lesions the inhalation of amyl nitrite caused a rise to less than 320 mm. In 89% of the cases with chronic inflammatory lesions (encephalitis, lues) the rise was to less than the 320-mm. level. In the central group the readings were about equally distributed in the region of the 320-mm. level. The author considers that the test is of value as a diagnostic aid in differentiating between expanding lesions and inflammatory or vascular lesions. It is not of value as a method of differential diagnosis between pathological and normal conditions in the brain.

J. L. FAULL.

*The Demonstration of Normal Cerebral Structures by Means of Encephalography. IV. The Subarachnoid Cisterns and Their Contents.* (Bull. Neur. Inst. N.Y., vol. iii, p. 418, March, 1934.) Dyke, C. G., and Davidoff, L. M.

The authors have already described the appearances of the choroid plexuses, the corpora quadrigemina and the cerebral convolutions and sulci as seen in encephalograms. The present article deals with the appearance of the subarachnoid cisterns and the structures bordering on or contained in them.

The cisterns are cisterna magna, pontis, interpeduncularis, chiasmatis, lamina terminalis, fossæ Sylvii and ambiens. It is claimed that it is possible not only to identify all the cisterns but, by examination of stereoscopic films, to study the actual size, shape and position of these spaces and their relationships to neighbouring structures. In many instances it was possible to identify nerves, blood-vessels and portions of the brain contained within or projecting into the cisterns.

J. L. FAULL.

*The Ætiology of Headache. (1) Headache Produced by Injection of Air for Encephalography.* (Bull. Neur. Inst. N.Y., vol. iii, p. 519, March, 1934.) Elsberg, C. A., and Sutherland, R. W.

The various theories of the production of headaches are discussed—the stretching of dura mater, transient obstruction of one or other foramen of Monro or iter, variations in secretory activity of choroid plexuses, etc. The possible anatomical paths are also discussed, and the nerves of the cerebral membranes and of the brain and its blood-vessels. It is suggested that the optic thalami may be the seat of the pain and that, as these structures form part of the walls of the lateral and third ventricle, any change in the conditions of pressure in these cavities would be readily transmitted to the structures which form their walls. Sudden changes of pressure in the ventricles can be produced in a number of ways, such as

injection of fluid into the ventricles and removal of fluid by ventricular or lumbar puncture, or the injection of air into the ventricles or lumbar subarachnoid space. After the injection of air the situation and amount can be determined by X-ray films. These procedures make it possible to investigate the connection between amount of air, situation of air, etc., and the occurrence of headache.

This first report deals with the headache that follows the injection of air into the lumbar subarachnoid space for purposes of encephalography. The procedure was carried out on 86 patients by the method described by Davidoff and Dyke. The patients suffered from various neurological symptoms. Details are given of correlation of the factors mentioned above—amount of air, situation, headache. The authors found that headache occurred most often at the time when the injected air had entered the third and lateral ventricles. This makes it probable that the presence of air in these loci is connected with the production of headache. There are differences in the situation of the headache when the head is in various positions. They conclude that the results of studies of headache occurring during encephalography may shed light on the mechanism which produces headache under other conditions.

J. L. FAULL.

### 5. Oligophrenia (Mental Deficiency).

*A Comparison of Orthogenic Backward Children and Regular Grade Children at the Six-year Performance Level.* (Psychol. Clinic, vol. xxii, p. 149, Sept.-Nov., 1933.) Farson, M. R.

The location of children in O.B. classes must be made upon a wider basis than that of a particular psychometric measure. There should be a pre-analytic judgment by the teacher, followed by an analytical diagnosis by a psychologist. It is necessary to have a battery of tests varied enough to explore competency in diverse fields. A qualitative analysis of test results is more important than a quantitative measure. The Witmer form board and cylinder, Healy A form board, memory spans and Binet tests are significant at the six-year level.

M. HAMBLIN SMITH.

### 6. Treatment and Pharmacology.

*Hæmatological Changes induced by Barbituric Intoxication [Modificaciones hematólogicas determinadas por la intoxicación barbitúrica].* (La Semana Méd., vol. xli, p. 355, Aug. 2, 1934.) Carratalá, R. E.

During the past few years, the author has gathered observations in twelve cases of well-defined barbituric coma, and these serve to differentiate it from other comas. One type of case is characterized by a diminution in the number of erythrocytes, and this is pronounced in fatal cases. In another type we have an initial hyperleucocytosis with a predominance of polynuclear cells. Attention is also called to an eosinophilia, which possesses diagnostic and prognostic importance. Experiments upon dogs and rabbits have confirmed the clinical findings. The calcium, magnesium and phosphorus contents of the blood are diminished in barbituric intoxication.

M. HAMBLIN SMITH.

*Carbohydrate Metabolism in Barbiturate Narcosis.* (Arch. Intern. Pharmacodynamie, vol. xlvi, pp. 111-22, 1934.) Mulinos, M. G.

The four barbiturates studied (amytal, nembutal, pernocton and dial) cause a definite hyperglycæmia in rabbits and dogs, and a 40% decrease in the alimentary hyperglycæmia following the administration of glucose by stomach-tube. Nembutal causes the appearance of a reducing substance, not glucose, in the urine of cats. These results entail caution in the interpretation of results obtained in rabbits under barbiturate anæsthesia.

H. EAGLE (Chem. Abstr.).