

spinal fluid from the lumbar region it was .5--.76 mgrm.%. In manic-depressive psychosis the corresponding values were often slightly lower. In 20 diverse pathological cases plasma bromine varied from .11--.98 mgrm.% ; serum bromine was slightly lower, and corpuscle bromine .19--.41, average .27 mgrm.%.

L. E. GILSON (Chem. Abstr.).

*Relation of the Oxygen and Nitrogen Contents of Cerebro-spinal Fluid to Barometric Pressure.* (Amer. Journ. Physiol., vol. cvii, p. 164, 1934.) Cunningham, C. J., Rand, J. H., and Weckesser, E. C.

The oxygen content of the cerebro-spinal fluid is a little more than doubled and the nitrogen content is trebled when the barometric pressure is increased from one to three atmospheres.

J. F. LYMAN (Chem. Abstr.).

*Sugar in Cerebro-spinal Fluid after Ingestion of Carbohydrates.* (Z. ges. expl. Med., vol. lxxxii, p. 128, 1932.) Dobrev, M., and Saprianov, T.

The administration of 100 grm. glucose in 200 c.c. of water to 28 patients with nervous diseases led, in the majority of cases, to an increase in sugar in the spinal fluid. This was nearly always less than that in the blood, but in some cases the rise in the former after the glucose was negligible even when the blood-sugar rise was very marked. The rise is a normal physiological process.

G. G. (Chem. Abstr.).

*The Effect of Activated Ergosterol Administration on the Calcium of the Cerebro-spinal Fluid.* (Trans. Roy. Soc. Can., vol. xxvii, p. 87, 1933.) Johnston, C. R. K., and King, E. J.

Oral administration of activated ergosterol to adult dogs increased serum calcium, the maximum being reached in 48-60 hours. The calcium content of the spinal fluid increased only after the serum calcium had reached the maximum value. Five to eight days after ergosterol administration, a secondary increase in serum and spinal fluid calcium was observed. This was attributed to an observed vacuolization of the cells of the parathyroid gland.

W. G. ROSE (Chem. Abstr.).

*A Note on a "Proteose-like" Substance in Spinal Fluid.* (Amer. Journ. Psychiat., vol. xliii, p. 1083, March, 1934.) Schube, P. G., and Whitehead, R. C.

A new reaction and a hitherto unnoticed substance in the spinal fluid are described. The spinal fluid from 37 unselected cases was studied. The fluids were both normal and pathological. In all of them the ether-alcohol reaction was positive, and a proteose-like substance was isolated, regardless of the quantity of fluid used. The end-product of the reaction is a flocculent material. No relationship could be established between this reaction and the amount of spinal fluid protein or sugar, or between the reaction and the positive or negative Wassermann or gold-sol reactions. The ether-alcohol reaction was present irrespective of whether these chemical substances or reactions were normal or pathological.

M. HAMBLIN SMITH.

*A Study of the Total Protein of the Cerebro-spinal Fluid in Uncomplicated and Untreated Neurosyphilis.* (Amer. Journ. Psychiat., vol. xliii, p. 1085, March, 1934.) Schube, P. G.

The total protein was estimated, in mgrm. per 100 c.c., in 449 cases of uncomplicated and untreated neuro-syphilis. There were 357 cases of general paresis, 48 cases of tabes without psychosis and 44 cases of cerebro-spinal syphilis with psychosis. The average value of the total protein was 75.4 for all cases, and 79.0, 57.9 and 65.68 respectively for the three sub-groups. The middle 50 % of the cases contained protein ranging between 43.70 and 114.30, 37.06 and 78.74, and

31.96 and 99.40 for the respective sub-groups. There is no true difference between any of the mean figures, excepting neuro-syphilis and tabes without psychosis, and general paresis and tabes without psychosis; in these two instances the difference is so pronounced that there is no question of its existence. Accepting 39.99 mgrm. per 100 c.c. as the upper limit of normal protein, it was found that 23% of all the cases of neuro-syphilis possessed normal values; the figures for the sub-groups were 20.72%, 29.16% and 34.09%.

M. HAMBLIN SMITH.

*A Comparison of Some New Flocculation Tests for the Cerebro-spinal Fluid with the Wassermann Reaction (M.B.R. II, Modified Citochol and Modified Kiss Reactions).* (*Journ. Neur. and Psychopath.*, vol. xiv, p. 239, Jan., 1934.) Paterson, A. S., and McLaughlin, F. L.

The authors found from an examination of 500 spinal fluids that the Wassermann reaction carried out by means of the technique of Mann and Partner was more sensitive and specific than any of the flocculation tests. Of the flocculation tests, the M.B.R. II was easy to carry out, gave a result which was definite and easy to read, and could be used when there was too little fluid for the Wassermann. The citochol reaction was more difficult to read and was less sensitive. The Kiss reaction, even with the modification suggested, was still less useful.

G. W. T. H. FLEMING.

*The Cerebro-spinal Fluid in Multiple Sclerosis.* (*Brain*, vol. lvii, p. 56, March, 1934.) Merritt, H. H.

The author describes the findings in 100 cases of multiple sclerosis. The fluid is completely normal in less than 20% of cases. The intra-cranial pressure is usually normal. Pleocytosis of a moderate degree is common, occurring in 28% of cases. An abnormal colloidal gold curve was present in 71% of cases. The fluid was normal in regard to chlorides, glucose, non-protein N, calcium, phosphorus, sodium, total solids and freezing-point. The Wassermann is always negative. There are no changes that are pathognomonic of multiple sclerosis, but a first or mid-zone colloidal gold curve with or without a slight pleocytosis and increased protein content in an otherwise normal fluid is suggestive of multiple sclerosis, provided there is no history of syphilis or anti-syphilitic treatment.

G. W. T. H. FLEMING.

*Studies in the Carbohydrate Metabolism of the Rabbit. I: The True Blood-sugar Value in Convulsions due to Insulin Administration.* (*Journ. Biol. Chem.*, vol. civ, p. 535, March, 1934.) Dotti, L. B.

The author found that the non-fermentable reducing substances in rabbits' blood were unaffected by amounts of insulin sufficient to produce convulsions. The total reducing substance in the blood at the incidence of convulsion is the same as the non-fermentable reducing substance in normal blood and blood during convulsions.

G. W. T. H. FLEMING.

*Convulsions of Undetermined Ætiology. Studies of the Blood-sugar.* (*Arch. Neur. and Psychiat.*, vol. xxxi, p. 1055, May, 1934.) Nielsen, J. M.

The author presents a series of 58 consecutive dextrose tolerance curves in idiopathic epileptics. This series showed that periodic or constant low blood-sugar occurs in 90% of epileptic persons during a tolerance test. He thinks that the syndrome of idiopathic epilepsy is almost confined to persons with a tendency to hypoglycæmia. Hyperinsulinism cannot be detected. Other necessary factors, the author thinks, are probably hydration, alkalosis, depletion of glycogen, hypopararenalism or imbalance of the vegetative nervous system.

G. W. T. H. FLEMING.