ABSTRACTS FROM CURRENT MEDICAL LITERATURE.

PATHOLOGY.

Diphtheritic Paralysis and Antitoxine. — F. Ransom carried out this research in the laboratory of Professor Behring at Marburg-on-Lahn with the object of investigating the assertion that post-diphtheritic paralysis is more frequent now than in the days before the use of antitoxine. The increased frequency is quite probable on account of the use of antitoxine being followed by diminished death-rate in severe cases, these being the cases in which paralysis is more likely to ensue. The author thinks that there may have arisen in the minds of many the idea of a direct connection between the antitoxine treatment and the paralysis. He tries to answer the following questions:—

1. In what numerical relation do the cases of paralysis stand to the number of intoxications?
2. What is the relation, if any, between the amount of toxine given and the severity or frequency of paralysis?
3. What are the results, so far as paralysis is concerned, when toxine and antitoxine are given mixed?
4. What are the results when antitoxine is given some hours after intoxication?

The animals used in the research were guinea-pigs, they being liable to very characteristic post-diphtheritic paralysis. Injections were given (a) of toxine, (b) of mixtures of toxine and antitoxine, and (c) of antitoxine alone. Two toxines were used, both of which were in the form of dry powder of about 150 times normal strength.

The paper is illustrated by an exhaustive series of tables, and the results of the investigation are as follows:—

1. Paralysis may certainly be expected after intoxication with not less than one-fourth of the minimum fatal dose. With doses between one-fourth and one-eighth paralyses occur, but are not constant, and below one-eighth no paralysis was noticed.
2. The larger the dose of toxine the severer will be the paralysis, if the animal survives long enough.
3. Neutralised mixtures of toxine and antitoxine, containing only about one lethal dose or less, do not appear to cause paralysis.
4. Antitoxine, given fifteen to twenty-two hours after intoxicating with doses of toxine not greater that the lethal dose, exercises in large doses a mollifying influence on the subsequent paralysis. This influence is more evident on smaller doses of toxine than on such as are but little less than the minimum fatal dose. Small doses of antitoxine have no evident effect in diminishing the paralysis.
5. Transferring these results to practice amongst human beings, we may expect liberal doses of antitoxine, given early in the illness, to influence favourably the subsequent paralysis; and this beneficial influence is likely to manifest itself not so much on the local paralyses (soft palate, &c.) as on such symptoms as failure of the heart. Severe cases are, however, likely to be followed by some paralysis in spite of even large doses of antitoxine.—(Journal of Pathology and Bacteriology, July, 1900.) —G. H. E.

The Action of Diphtheria Toxine on the Spinal Stichochrome Cells.

Fixation.—Saturated solution of HgCl₂ in normal salt solution is recommended.
Embedding.—The specimens were embedded in paraffin, and sections cut in the Rocker microtome.

Staining.—The following modification of Held's methylene-blue and erythrosin double-stain was employed:—The sections, fixed to the slide, were covered with fluid prepared immediately before use by mixing equal parts of a solution of methylene-blue in distilled water (0·375 per cent) and of 5 per cent watery solution of acetone. This was carefully warmed till all odour of acetone had disappeared; then allowed to cool, and sections washed in water; then stained for five to ten seconds in solution of erythrosin, 1 grm. in 50 c.c. of distilled water, to which a couple of drops of glacial acetic acid added, and again washed in distilled water. Differentiation was effected by alcohol, the process being controlled under the microscope. Sections cleared in xylol, and mounted in Canada balsam. The animals used were rabbits.

Results.—Diphtheritic paralysis is associated with changes in spinal cord as well as in peripheral nerves. The cellular changes are the most characteristic. They may, however, be associated with vascular changes (dilatation of capillaries). The cellular changes are very definite, and consist in chromatolysis to a moderate degree, in increased staining capacity of the achromatic substance for acid stains, and in vacuolation of the cell protoplasm. The cell-change is probably antecedent to the nerve-change in the majority of cases.—(Journal of Pathology and Bacteriology, July, 1900.)—G. H. E.

Sebaceous Tumour on the Under Surface of the Penis.—Lilienthal records the case of a patient, aged 31, whose parents had noted the tumour shortly after birth. It grew slowly till, at the time when Lilienthal saw it, it had reached the size of a very large olive, occupying the under surface of the prepuce just behind the frenum. It was of putty-like consistency. Removal was carried out under local anaesthesia.

In the discussion which followed, a similar case was mentioned as having occurred in Dr. Alexander's service at the Bellevue Hospital. In this case the tumour had been present since the age of 4 years, and it had been tapped several times. It was situated at the tip of an elongated prepuce.—(New York Academy of Medicine, Section on Genito-Urinary Surgery, 9th January, 1900. Reported in The Journal of Cutaneous and Genito-Urinary Diseases, New York, March, 1900.)—G. H. E.

Congenital Malformation of Small Intestine.—Zabriskie gives details of a case. J. R., aged 36 hours, admitted to hospital 2nd October, 1898. There were two motions passed during the first twenty-four hours after delivery. An enema was not successful, and vomiting of blackish material with a faecal odour ensued. A gum catheter was passed into the rectum for a distance of 4 inches, and it was noticed on withdrawal that cheesy material was adhering to the instrument. Laparotomy was performed. The gut ended blindly at middle of ileum, which was distended with gas, and much congested. The blind end of the next portion of the gut was found 1½ inch low down, and attached to the first by mesentery. It was collapsed and of normal size, but 4 inches lower down there was a peanut-shaped enlargement of the gut. This, which was constricted proximally, was soft, and filled with caseous material. Resection of gut down to beyond the dilatation and anastomosis was followed by death in twelve hours. No other abnormality was found.—(Post Graduate, New York, February, 1900.)—G. H. E.

Varicose Spinal Veins.—Clarence E. Corn records this case. On opening the spinal canal there was found intradurally at the junction of the dorsal and lumbar regions a dark line. This was 3 inches long, and extended 1½ inch above and below the upper surface of the first lumbar vertebra, and was the varicose posterior spinal vein. The affected portion of the vessel was 5 cm. in length and 3 cm. in diameter.
The patient had suffered from excruciating neuralgic pains, eased by confinement to bed by another illness. In the extreme lower lumbar region anteriorly were two dilated veins. The absence of motor symptoms was attributed to the ample space in the region of the cauda. Microscopically, the cord was normal in the mid-dorsal region. (New York Medical Journal, 17th March, 1900.)—G. H. E.