cases abundantly confirmed the position assumed by the speaker at the meeting held one year ago, regarding the wisdom of radical and early operation in these cases.

Dr. F. L. JACK (Boston) said in mastoid operations it was always difficult to decide just how far the operation should be carried. He referred to one case—an acute case—in which pus was removed from the mastoid cells. The temperature fell immediately after the operation. After a week there was chill and fever, and on second operation a very minute spot of softened bone was found near the lateral sinus, and removed. He was quite sure that this was not present at the first operation. The patient became pyæmic, and finally died.

Dr. THIGPEN said, in his closing remarks, that he always stated to his patients with mastoid disease that it was quite possible that a second operation might be necessary. It was his practice to have the temperature taken every two hours after the operation, as he had found from sad experience that this was important.

*(To be concluded.)*

# ABSTRACTS.

## DIPHTHERIA, &c.

**Katz, O.**—*Contribution to the Study of Diphtheritic Paralysis.* "Archiv für Kinderheilk.," Band XXIII., Heft 1-3.

THE author reports and criticizes the results obtained by other observers from the earliest times up to the present time; then reports in detail the clinical history and *post-mortem* examination of three cases.

The following is a short summary of his conclusions. The changes in the nervous system in diphtheritic paralysis are first of all diseased conditions of the ganglion cells, and, secondly, degenerative changes in the nerve fibres in trophic relationship to these ganglion cells. The ganglion cells (1) are killed outright, in which case their processes, specially the axis cylinder processes, also die; or they (2) are less violently affected and undergo degenerative changes with accumulation of fat globules, and the nerve fibres undergo secondary trophic changes, becoming split up and broken down. In the latter case the fat globules may be absorbed and *restitutio ad integrum* is possible, just as it is possible in kidney epithelium, heart muscle, etc.

A neurose affected by these slighter changes will respond not to gentle but only to strong stimulation; hence the difficulty, *e.g.*, of swallowing bland fluids like milk, and the comparative ease of swallowing firmer or more irritating substances. These nerve conditions further explain the weakness, heaviness, loss of appetite, dull speech, etc., etc., of patients convalescent from diphtheria.

The medulla oblongata is more severely and earlier affected than the spinal cord. The spinal cord, however, is affected even in slight cases—as is demonstrated by the condition of the patellar reflex—both sensory and motor paths being involved. Why the medulla should be specially non-resistant to the diphtheric poison cannot be explained by anatomical investigation alone, but the unceasing activity of the medullary centres and their comparatively rich blood (and therefore

poison) supply are suggested as possibly important factors. The posterior roots, specially in the region of the patellar reflex, were severely affected in the author's three cases.

The oculo-motor symptoms in diphtheria are easily explained by the degenerative changes found in the nerves, but in the production of the accommodation symptoms probably both nerve and muscle degenerations take part.

The palatal paresis or paralysis is also of central origin. Finally the author considers that the anatomical changes found by him in the medulla and cord are sufficient to explain all forms of paresis and paralysis, of anæsthesia and paræsthesia, that occur in cases of diphtheria. *Arthur J. Hutchison.*

**Klein, A.**—*The Operative Treatment of Diphtheritic Stenosis of the Air Passsage and its Results.* "Arch. für Kinderheilk.," Band XXIII., Heft 1 to 3.

THIS paper commences with a survey of the history of tracheotomy and intubation in diphtheritic stenosis, from the time of Bretonneau, Trousseau, and Bouchut, showing how "tubage" introduced by the latter was completely forgotten till reintroduced by O'Dwyer, and, further, how its position remained more or less doubtful till the introduction of serum treatment. The second part of the paper contains a long analysis of the results obtained in the diphtheria wards of the Kaiser und Kaiserin Friedrich Kinderkrankenhaus.

At first the results of intubation were not encouraging; consequently, the number of cases intubated fell off to thirty-seven cases, with nine cures = 24·52 per cent. With the introduction of serum treatment they rose again, so that in 1894—

There were intubated: without serum, 87 cases ..... Cured, 18 = 20·69 per cent.
And ,, ,, with serum, 68 ,, ..... ,, 37 = 54·41 ,,
And in 1895 ,, ,, 102 ,, ..... ,, 67 = 65·68 ,,

The year 1894 is specially interesting, showing the results obtained by intubation in cases treated with and those treated without serum. Since the introduction of serum treatment the number of cases requiring surgical treatment has greatly diminished, and it has become quite rare for stenosis to develop in hospital. Again, in the earlier cases tracheotomy was very frequently required after intubation; but now that comparatively rarely is the case.

The only contraindications to intubation are—

1. When the patient is moribund, or there is very great weakness of the heart.
2. Septic diphtheria.
3. Severe pharyngeal dyspnœa, with œdema introitus laryngis.

The author next discusses the question of the time at which intubation should be performed, the difficulties of intubation, and the causes of death. He states that if the introduction of the tube is not followed by coughing the prognosis is bad. With cases treated with serum an attempt may be made to extubate after twenty-four to thirty-six hours. In two-thirds of all cases that recovered, all symptoms of stenosis had disappeared in three to four days. The author cannot agree with Escherich and others that, if the tube cannot be removed after about five days, secondary tracheotomy must be performed. Secondary tracheotomy is required (1) when intubation is followed by increased dyspnœa; (2) when it is impossible to permanently remove the stenosis.

Of complications, such as are not uncommon after tracheotomy—suppurations, hæmorrhages, etc.—the author has none to report, and only one of pneumonia from food getting into lungs. As to pressure effects—ulcers, etc.—of twenty-six cases treated without serum there were found, *post mortem*, decubitus of slight or moderate degree, eight times; perichondritis, once; thirteen treated with serum, six times.

Turning next to tracheotomy, the author gives in tabular form the results obtained, but does not discuss them at all fully. In nine cases the difficulty of removing the tracheotomy tube was got over by secondary laryngeal intubation.

Lastly, the author is of opinion that, with a capable nurse, intubation may be as safely used in private practice as tracheotomy. *Arthur J. Hutchison.*

**Theodor, W. F.**—*Diphtheria and Serumtherapy.* "Archiv für Kinderheilk.," Band XXIII., Heft 4, 5.

FROM October, 1894, the author has treated all slight cases of diphtheria by his old method, without serum, but to all cases that were not likely to recover under that treatment he gave serum. A table is given showing the details of thirty-four cases treated with serum. The diagnosis of diphtheria was confirmed in all but one case by bacteriological examination. Four cases terminated fatally, but only one of these came under treatment before the fourth day. There were practically no complications; now and again slight cutaneous irritation—now and again traces of albumen in the urine for a day or two; but whether these were due to the diphtheria or to the serum could not be decided.

In cases of so-called scarlatinal diphtheria (twelve cases), Loeffler bacilli were never found, but strepto- and staphylococci, and small plump rods. This is in contrast with Ranke's observations. *Arthur J. Hutchison.*

**Wilson.**—*Nervous Deafness in Diphtheria.* "American Journ. of the Med. Sciences," Oct., 1897.

THE case is reported because sudden bilateral total deafness in diphtheria is exceedingly rare, and because the false membrane on the tonsils disappeared rapidly after the administration of an efficient dose of antitoxin. A married woman, aged thirty-three. Complained of sore throat on November 12th, 1896, small patches being found on one tonsil, with congestion of the palate and the other tonsil.

14th. Throat less painful, but greyish exudate on right tonsil. Hearing impaired, and distressing tinnitus heard all over the head.

15th. Constant roaring in the head and ears. Conjunctivitis exudate on both tonsils. Rapidly increasing deafness. Antitoxin—one thousand five hundred units of Behring's serum injected at ten a.m. At five p.m. total loss of hearing and great conjunctival chemosis. No pain in or about the ear, nor tenderness on pressure.

17th. Membrane in throat disappeared. Both tympanic membranes bright red, glistening, and not bulging. Some doubt as to bone conduction. The Klebs-Loeffler bacillus was not found by the bacteriologists.

18th. From this time, for a week, pilocarpin injections, and full sweating induced by them.

19th. Tinnitus continues. Loss of power in the muscles of the back of the neck.

29th. No hearing, and voice very imperfectly modulated.

December 4th. Tinnitus, constant and distressing. Membrana tympani quite normal.

19th. Amyl nitrite inhaled to see if deafness was due to anæmia of the internal ear. The tinnitus was enormously increased.

February 24th. Tinnitus continues, with some vertigo and disturbance of the equilibrium. Deafness absolute. All these symptoms continued up to May 1st, when the report of the case was made.

In spite of the negative character of the bacteriological examination, the case is believed to be one of diphtheria. The nature of the throat lesion, the exudate developing after local lesions presenting the phenomena of lacunar tonsillitis, the

rapid disappearance of the pellicle leaving superficial erosions after the injection of antitoxin, and the impairment of accommodation and double vision, together with loss of power in the muscles of the neck, are relied on to establish the diagnosis.

We must note that no reaction followed the injection, and various other drugs were being used—*e.g.*, calomel and iron internally, and gargles and swabbing of peroxide of hydrogen—so that the effect of the antitoxin is not quite so definite to trace as if it had been alone employed. *Barclay J. Baron.*

---

## MOUTH, &c.

**Carré.**—*The Strepto-Bacillus of Malassey-Vignal as Factor of Anginas.* "Lyon Méd.," May 2, 1897.

EXAMINING one hundred and forty cases of anginas, he has found four times the strepto-bacillus of pseudo-tuberculosis discovered by Malassey and Vignal; twice isolated, twice associated with the diphtheria bacillus. In these four cases the disease was very serious; in one it appeared in the course of throat disease, an infectious broncho-pneumonia. He gives the technique of cultures. *A. Cartaz.*

**Jullien, L.**—*Primary Ulcer of the Tonsils.* "Annales de Dermat.," Vol. VIII., p. 275.

HE relates a rare case of bilateral chancre of the tonsils in a girl seventeen years of age. The syphilis had been inoculated by the sucking of the nipples of a parent recently delivered, for applying the nipples to nursing. The woman had been contaminated by the husband. The two tonsils are invaded by large ulcerations; dense, with voluminous and hard enlargement of cervical, retro-occipital, mastoid, and axillary glands. *A. Cartaz.*

**Turner, W. A.**—*Note on the Course of the Fibres of Taste.* "Edin. Med. Journ.," Sept., 1897.

THE author supports Gower's view that taste impulses from the anterior two-thirds of the tongue enter the brain *viâ* the fifth cranial nerve-root. What appears to be a crucial case was recorded by Ferguson in 1890. During life complete loss of taste had existed on the anterior two-thirds of the left side of the tongue, while the posterior third, the fauces, and soft palate retained the sense of taste.

*Post-mortem:* a small exostosis was found to press upon and divide the left vidian nerve. Microscopic examination revealed degeneration of the great superficial petrosal, traceable to the geniculate ganglion, and along the facial trunk to the chorda tympani, and on to the lingual nerve.

Krause's cases of excision of the gasserion ganglion also support this view.

If Dixon's view were correct, then destructive lesions of the facial nerve-root in its course from the pons to the internal auditory meatus ought to produce abolition of taste sensation. But this is not found to be the case. In a case reported to the writer by Dr. Alex. Bruce, in which the symptoms pointed to implication of both the seventh and eighth nerves in the posterior cranial fossa, taste was unimpaired on both sides of the tongue.

The point meantime remains dubious, "although clinical evidence is in favour of the root of the fifth cranial nerve." *Arthur J. Hutchison.*

---