

muscles previously paralyzed. The galvanic current is not of much importance in the diagnosis of nerve regeneration.

Spontaneous union of divided nerves in the extremities is very rare. In high injuries of nerves the prognosis is unfavorable in spite of nerve sutures.

Regeneration of nerves is prevented by the extensive formation of cicatricial tissue.

Nerve suturing is not only a justifiable operation, but in every traumatic case of nerve section it is the duty of the surgeon to adopt it.

The essentials of success are: absolute antisepsis, complete hæmostasis, avoidance of irritation. If, after nerve injuries, a congested condition of the limb results, it should be elevated, and massage employed as soon as the wound is healed. Direct galvanization of the nerve scar should be employed, as well as massage soon after cicatrization in order to diminish the scar.

It is not proven that electric treatment of the organs supplied by the cut nerves either limits the atrophy or favors the nerve regeneration.

Massage and passive gymnastics constitute the rational treatment for peripheral paryses.

The most extensive use of the extremity that is found possible after nerve section, appears to have a favorable influence upon the healing.

ACUTE MERCURIAL POISONING.

KAPOSI (*Centralblatt für Chirurgie*, December 18, 1889) reports the case of a vigorous woman forty years old, who on account of a maculo-papular syphiloderm had taken, by hypodermic injection within seven weeks, a considerable quantity of "oleum cinereum," which resulted in the appearance of an acute stomatitis, followed by dysentery and death six weeks later.

The autopsy showed the well-known signs of mercurial poisoning. The chemical analysis of the tissues of the last place of injection showed that scarcely a third of the amount deposited there had been absorbed. This fact made the case still more noteworthy, as usually gray oil is exceedingly well tolerated.

In four other cases Kaposi found a greater or less degree of acute stomatitis after similar injections, and in one case there was coexistent albuminuria.

OTOLOGY.

UNDER THE CHARGE OF

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CREOLIN IN AURAL THERAPEUTICS.

In the report of the work in the ear clinic at Göttingen, BÜRKNER communicates the experience with creolin (*Archiv für Ohrenheilkunde*, vol. xxviii., Part 4, October, 1889). Preference has been given to Pearson's creolin, which

experiment has shown to be the most efficient. It has been used in the strength of six to eight drops to the pint of water, for syringing the ear, but the results, while good, have not been equal to those described by Vitelberg, Liechtwitz, and others. In some cases bitter complaints have been made of the taste and smell of the drug. It doubtless possesses antiseptic power, but in the above-named solutions the effect cannot be very great, and stronger ones cannot be borne in the ear. The opacity of the watery solution is also an objection to its use, as the appearance of the secretions, etc., washed from the ear cannot be easily seen. A tarry deposit is sooner or later formed in syringes in which creolin is used.

It must, however, be admitted that many cases of chronic purulent discharge from the middle ear heal much more quickly under syringing with creolin than with any other means, owing to the property of creolin to diminish secretion. In chronic eczema a cure is sometimes apparently effected more quickly under the use of creolin than of either a solution of borie or carbolic acid. On the whole, however, Bürkner believes the objections to the use of creolin in aural surgery are graver than the advantages to be derived.

HERBA SABINA AND ALUM IN AURAL THERAPEUTICS.

The same writer (*loc. cit.*) also gives his experience with the mixture of equal parts of herba sabina and burnt alum, which has been used by Lucae in carcinoma of the auditory canal, with good results (*Therapeutische Monatshefte*, No. 11, 1887). Bürkner has used this powder in the after-treatment of polypi, with good results, but he states that it cannot take the place of nitrate of silver in such cases. When time is wanting for the application of lunar caustic, the above-named powder may be substituted.

TREPHING THE MASTOID PROCESS.

KÜSTER, at the Berlin Medical Society (*Archiv für Ohrenheilkunde*, vol. xxviii. pp. 286-296, October, 1889), read a paper on the fundamental laws of the treatment of suppuration in hard-walled cavities. He maintained that the frequent fatal termination of suppuration of the middle ear could with certainty be averted off only by a timely opening in the mastoid and exposure of the suppurating cavities. He considers, however, that the method of treatment set forth by Schwartz, and in the main followed by aurists of to-day, is not surgically satisfactory. Recovery is often very slow, requiring eight to ten months, sometimes longer, with intercurrent symptoms in some cases, which endanger life, and ensue just as though nothing had been done to the mastoid for relief and prevention.

Küster's experience varies as the primary affection is in the mastoid or in the drum cavity. In the first instance the opening in the mastoid is made a large one, and the middle ear suppuration ceases as soon as the source of the disease in the mastoid is removed. Long-continued syringing will now do more harm than good, as it may work purulent matter into the middle ear and endanger the contents of the cranial cavity.

In primary suppuration in the drum-cavity, Küster advises the removal of the posterior wall of the osseous auditory canal, in order to obtain perfect

drainage from the antrum and the drum-cavity. This is to be formed by a drainage-tube running from the tympanic cavity to the orifice of the external canal. This is similar to the method proposed twelve years ago by C. Wolff, of Herzfeld.

In some primary affections of the mastoid the middle ear may not participate, or, if so, only to a slight extent. These are: 1, tuberculous otitis of the mastoid; 2, acute infectious osteomyelitis of the mastoid; 3, a part of the so-called cholesteatomata, or pearly tumors—subdivided into (a) thickenings and collections of epithelium on the drum-membrane and other parts of the drum-cavity; (b) the rare "congenital dermoid growths" of the inner ear and its environs; (c) the true pearly tumors. Küster regards the latter as "primary congenital tumors of the bone surrounding the drum-cavity." (Note by Dr. L. Jacobson, of Berlin.)

PEARLY TUMOR OF THE TEMPORAL BONE.

VIRCHOW (*Ibid.*) admits with Küster the possibility that pearly tumors in the middle ear are connected with an early disturbance in the development of the branchial cleft, but does not admit that they are analogues of the sebaceous tumors occurring in the neck. He has never yet found a pearly tumor in the neck. On the other hand, there is in the neighborhood of the middle ear, another locality relatively often the seat of similar formations, viz., the pia mater cerebri. It is remarkable that that part of it nearest the petrous bone, and connected with it by means of the acoustic nerve, near the medulla oblongata and the pons, is the part most likely to be thus affected.

In conclusion, Prof. Virchow drew attention to the fact, that nearly one-third of the fatal cases of suppuration of the middle ear are attributable to cholesteatoma, and therefore they should be completely removed as soon as discovered.

DIAGNOSIS AND TREATMENT OF OBSTRUCTIONS OF THE EUSTACHIAN TUBE.

DR. DE MENDOZA, of Angers (*Annales des Maladies de l'Oreille*, November, 1889) contributes a very practical paper on the use of bougies in narrowing and strictures of the Eustachian tube. These are divisible into two classes—viz.: 1, permanent or temporary catarrhal obstructions, and, 2, organized or true strictures. The former are usually connected with catarrhal inflammations of the throat and naso-pharynx, and often recover with these affections without special treatment. In the second class of cases the strictures are often due to secondary inflammation of the Eustachian tube, in serofulous, rheumatic, or gouty subjects. Here are found true organic strictures, usually seated at the isthmus. Their occurrence is more frequent than is supposed, according to the author. The only true way of diagnosing them is by means of whalebone bougies with olive-shaped tips. The normal Eustachian tube permits a passage at the isthmus of a bougie from 1.2 mm. to 1.5 mm. in diameter. In cases of stricture the isthmus is impassable by bougies of this diameter. The bougies employed for this purpose are carefully marked, so as to know how far the instrument projects beyond the catheter's mouth.

TREPHINING THE TEMPORAL BONE IN THROMBOSIS OF THE TRANSVERSE SINUS.

ORLOW describes the case of a woman, twenty-seven years old, with chronic purulent otitis media, who had suffered finally with intense pain in her ear for three weeks, attended with swelling of the mastoid region and fever (*Deutsche med. Wochenschr.*, No. 10, 1889). Temporary relief followed an operation and the escape of pus from the mastoid cavity, and the "accidental" opening of an abscess between the dividing wall and the dura mater. It is maintained by Schwartz (Archiv. f. Ohrenheilkunde, Bd. xxviii. p. 310, October, 1889) there is no evidence that there was in this case any broken-down thrombus in the transverse sinus.

CASES OF OPERATIVE TREATMENT OF CARIES OF THE TEMPORAL BONE.

This paper is written by DR. L. JACOBY, of Breslau, upon his experiences with the results of chronic suppuration of the middle ear in twenty cases.

1. The first case was one of otorrhœa in the left ear, of several years' standing, attended with cholesteatoma of the tympanic cavity and a fistulous opening through the mastoid. This was permanently healed after three years of treatment, the first step being an enlargement of the fistulous canal in the mastoid, and a thorough removal of the cheesy pus and cholesteatoma from the middle ear, and scraping away all softened bone. This was followed by daily syringing the diseased tract with salt water and solutions of carbolic acid for nearly two years, until the ear had ceased to secrete pus. In the course of another year the patient's ear was entirely healed, and free from all purulent disease.

2. In the second case we find a chronic otorrhœa attended with central caries in the mastoid process and left tympanic cavity, with implication of the labyrinth. Death ensued from pyæmia and abscess of the brain. The operation of enlarging a fistulous opening in the mastoid gave no relief.

3. On the right side empyema, on the left central caries of the mastoid process and of the tympanic cavity, after acute otitis media. Opening of the mastoid cells was followed by cure in three or four months.

4. Acute otitis media, with secondary empyema of the mastoid process: opening by chiselling off layers of bone; cured in two and a half months. Permanent facial paralysis.

5. Empyema of the mastoid cavity resulting from the injudicious insufflation of some kind of powder into the ear when acutely inflamed. Opening in the mastoid by chiselling, as in previous cases, followed in two months by entire relief from purulent disease in the ear.

6. Acute inflammation of the middle ear, with secondary subperiosteal abscess, fistulous opening, and empyema in the mastoid after insufflation of iodoform in the ear while acutely inflamed. Chiselling followed by cure in six weeks.

7. Acute otitis media with secondary empyema of the mastoid process. Chiselling an opening followed by cure in two months.

8. Caries of the left mastoid process and tympanic cavity with fistula in the

cortex, following acute inflammation of the middle ear. Healed in four months.

9. Otorrhœa with central caries of the left mastoid. Chiselled opening, and cure in about two and a half months.

10. Acute suppuration of both ears, complicated on the left side with caries of the mastoid process. Nephritis and general anasarca. Chiselling, and cure in two months.

11. This case was one of acute inflammation of the middle ear, right side, complicated by empyema of the mastoid antrum. An opening was chiselled in the mastoid, and healing ensued in two months.

12. Very chronic, fetid otorrhœa with fistulous communication between the mastoid antrum and the external auditory canal, and central caries and cholesteatoma in the mastoid process. An opening was chiselled in the mastoid; septicæmia followed, but recovery ensued finally in a year.

13. Empyema of the mastoid antrum following acute inflammation of the middle ear. An opening was made in the mastoid by means of the chisel, and recovery ensued in four months.

14. Periostitis and empyema of the mastoid process connected with acute inflammation of the middle ear. Two months after all mastoid symptoms had subsided, new symptoms of pain and tenderness in the mastoid were experienced. A fistulous opening was discovered about one centimetre above and behind the porus acusticus externus. This was enlarged, and the mastoid cavity cleansed with a one per cent. solution of carbolic acid, and the wound dressed with iodoform gauze. Recovery ensued in six months with perfect hearing.

15. Empyema of the mastoid antrum, consequent upon acute otitis media. An opening was made in the mastoid with the chisel, and a cure occurred in two months.

16. Chronic otorrhœa in connection with central caries and cholesteatoma of the mastoid process and the petrous bone. Repeated chiselling operations were followed by severe cerebral symptoms, but finally recovery took place in the course of a year.

17. Chronic otorrhœa attended with central caries in the mastoid, the tympanic cavity, and possibly the labyrinth. Improved by repeated operations.

18. Fetid otorrhœa of ten years' duration, with caries of the tympanic cavity and the mastoid; also cholesteatoma of the petrous bone. Death from meningitis.

19. Chronic otorrhœa in both ears, with central caries of both mastoid processes, complicated with ossæa, and on the left side with labyrinth disease. Chisel operation on both mastoids; bone lesions healed in four months and a half. The ossæa improved.

20. Chronic suppuration of both middle ears, after scarlet fever, with central caries, necrosis of the tympanic cavity, the mastoid process, and the labyrinth, with absolute deafness for speech. The bone disease on the left side healed by operation and removal of large sequestrum.—*Archiv für Ohrenheilkunde*, vol. xxviii., October and December, 1889.