

ration in the ear, but it was not apparent that either the smell or the secretion was essentially affected by the application of the drug.—*Loc. cit.*, p. 301.

EXCISION OF THE MALLEUS.

Drs. REINHARD and LUDEWIG (*Archiv für Ohrenheilkunde*, Bd. 27, Feb. 1889, Report of Clinic in Halle) report six cases of excision of the malleus in the clinic within the fifteen months—January 1, 1887, to March 31, 1888. More cases, however, have been recorded in their private practice in the same period. In four cases there was a perforation in the membrana flaccida, close above the short process of the hammer. In all of these cases necrosis of the malleus head was diagnosed, and verified by the operation.

The very chronic discharge in the first case of excision of the malleus, was cured by the operation, and the subsequent free cleansing and drainage, in two months. The second case was benefited. The third case showed a similar result. The fourth case was cured in one month after the operation. The fifth case, with otorrhœa on both sides, was cured by the operation in both ears, for a month; then a return of otorrhœa ensued in both ears. This case being double otorrhœa, and operated on in both ears, furnished two excisions, and makes up the six mallei removed.

CARIES OF THE TEMPORAL BONE, FOLLOWED BY PENETRATION OF PUS INTO THE CRANIAL CAVITY, AND COLLECTION OF THE SAME IN THE LOWER PART OF THE NECK.

Prof. DE ROSSI, of Rome, has reported a case characterized by the above prominent symptoms (*Annales des Maladies de l'Oreille*, February, 1889). He maintains that when a purulent affection develops in the mastoid cavity, the pus tends to escape, not always in the direction of the least resistance. Its course is determined by the connective tissue, the bloodvessels, the lymphatics, and the nerves most accessible to the septic matters and the pyogenic microbes. Thus the broad and thick layer of connective tissue over the petrosquamous suture, explains in part the frequency of abscesses on the external wall of the mastoid, and the occasional necrosis in the bone at that point. Again, the numerous veinlets traversing the internal wall of the mastoid cavity form, with the connective tissue accompanying them, the best pathway for the pyogenic microbes into the transverse and sigmoid sinuses. This gives rise to a periphlebitis at these points, without perforation of the bone.

In the case presented by de Rossi to the Academy of Medicine in Rome, which formed the foundation of the paper before us, the pus which collected at the lower part of the neck could be forced out at the external auditory meatus, after following the nervo-vascular fasciæ, through the posterior foramen lacerum, entering again the cranial cavity, where a subdural abscess had formed, and passing by a perforation in the sigmoid sinus, arrived at last in the mastoid antrum, and from there escaped into the tympanic cavity. "It is worthy of note that the membrana tympani remained intact from the processes of disease." Yet it must have been incised if pus escaped in this case from the external auditory meatus; as we are informed it did.

The conclusion of Prof. de Rossi is: "Given symptoms of an intra- or

extra-cranial abscess, with history of purulent inflammation of the middle ear, we must open the mastoid cavity and seek the pus, even as far as the sigmoid sinus."

MASTOIDITIS; ITS COURSE AND THE RESULTS OF PERFORATION OF THE MASTOID APOPHYSIS.

PROF. COZZOLINO, of Naples, has communicated his experience with mastoid inflammation and its results, based on observations in his aural clinic between November, 1883, and June, 1888 (*Annales des Maladies de l'Oreille* January, 1889).

Mastoid disease is nearly always consecutive to chronic purulent otitis media (rarely to acute otitis), and to osseous lesions in the auditory canal. Therapeutically considered, these affections are divided into three groups: 1. Treatment of lesions of the mastoid by trepanation, curetting the cavity, and by antiseptic lavage. Twenty-two such cases are tabulated, all consecutive to otitis media purulenta chronica. 2. Treatment of perimastoid affections by Wilde's incisions, and rigorous antiseptic measures applied to the middle ear cavities. Seventeen cases are tabulated, consecutive to chronic purulent otitis media. 3. Treatment of peri- and endo-mastoid lesions of a benignant type, at their outset, by careful antiseptic measures applied to the tympanic and mastoid cavities. These number seven, and were invariably consecutive to acute otitis media.

The following conclusions are given regarding the respective roles of purulent infection and tuberculosis in the pathogenesis of mastoiditis:

1. The author has observed cases of endo-mastoiditis following chronic otitis media purulenta, manifesting all the symptoms attributed to tuberculosis of the temporal bone, yet in which the bacteriological examination gave results contrary to the diagnosis, and which demonstrated that the lesion was due to bacteria of suppuration, and not to those of tuberculosis.

2. Tuberculosis of the temporal, heretofore nearly abandoned to simply general treatment, is susceptible to treatment, as the author has demonstrated by means of curettage, aided by the most rigorous local antiseptics and rational treatment of the chronic inflammation of the middle ear and adjacent parts.

In the case of a child three years old, affected with scrofulo-tuberculous mastoiditis, among other tuberculous maladies, and in which the bacilli of Koch were found, Cozzolino obtained cicatrization in the osteo-periosteal structures by curettage, galvano-caustic, and antiseptic dressings of iodoform, corrosive sublimate, alcohol, and thymic acid.

His final general conclusions are: 1. Mastoid inflammation is always the result of chronic purulent otitis of the middle ear.

2. In all cases of mastoiditis, granulations and polypi are found in the middle ear cavities, which prevent the escape of pus from the tympanic cavity into the auditory canal. Sometimes there are small tumors found in the auditory canal, and also stenosis of this way of escape. It is the arrest of the escape of pus in these cases which is the cause of the diffusion of the inflammation from the tympanic cavity to the middle ear. In the pus thus detained in the mastoid, acids form, capable of exerting a corrosive chemical