

CLINICAL REPORTS.

DISEASES OF THE MIDDLE-EAR.

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In our study of diseases of the middle-ear we make two grand divisions: (1) Those diseases of the mucous membrane which run their course without inflammatory manifestation (without reaction), and without perforation of the drum; and (2) those diseases of the mucous membrane where the reaction is distinctly inflammatory in nature, either with or without fever, or with or without perforation of the drum. In the first group we associate middle-ear catarrh: (a) serous catarrh, recognized by a serous or slimy exudate within the middle-ear cavity; (b) adhesive catarrh, where the drum membrane is directly, or through organized lymph, adherent with the inner tympanic wall; (c) sclerosis, which represents a stage between middle-ear disease and labyrinth disease, and is due to a bony proliferation in the labyrinth capsule, causing ankylosis of the stapes. As causes of middle-ear catarrh we recognize acute and chronic naso-pharyngeal inflammation, the acute exanthemata, influenza, syphilis, paralysis of the soft palate, and growths in the upper pharyngeal cavity, which through pressure, impair and destroy the permeability of the Eustachian tube. In serous catarrh the position of the drum may be either normal or bulging, or retracted, and the exudate may or may not be visible. Recognition of an exudate through the tympanic membrane depends upon the amount of fluid present, its position and character, together with the amount of congestion of the middle-ear blood-vessels. Such disease may terminate in recovery through re-absorption of the fluid, with complete restoration of the hearing. The adhesive catarrhs are characterized by the formation of new connective tissue in the mucous membrane lining the middle-ear, which impairs the hearing by interfering with the vibration of the drum or the ossicles. By predilection the new-formed connective tissue occurs oftenest in the

upper middle-ear, over the head of the malleus, and in the fenestra rotunda and ovalis. These adhesive catarrhs may be curable. In the inflammatory middle-ear disease we usually have pain, swelling, rapid exudation of slimy pus, and strong reaction. The drum is red and swollen, and the inflammation reaches its height rapidly and then declines. The re-absorption of an inflammatory exudate on account of the development of numerous blood-vessels may be rapid; whereas in the serous catarrhs, where new blood-vessels do not develop, the re-absorption takes place slowly. In acute inflammatory otitis media simplex we do not have perforation, but the exudate remains a number of days, when it again disappears through re-absorption. In acute media suppurativa we have perforation of the drum as the characteristic symptom, which perforation may or may not again heal. The chronic form of suppurative otitis media lasts a long time, and there may not only be extensive destruction of the drum, but likewise caries and exfoliation of bone, together with adhesions, polypi, cholesteatomata, sinus phlebitis, and brain abscess.

The types of disease we have laid down are not always defined sharply, but run into each other, and an exudate in a simple middle-ear catarrh may lead to suppuration. The patient I now show you, a young man 19 years of age, has had otorrhœa since childhood up to two years ago. The hearing is better since the otorrhœa has been arrested. However the reverse may be true, and such patients may hear better while the ear discharges. The explanation of this is that the moisture kept up by the discharges flowing over the hypertrophic mucous membrane in and around the stapes keeps it relaxed and from shrinking, and thereby interfering with the transmission of sound through the chain of ossicles and the fenestra ovalis. You will notice in this man that the incus-stapes articulation is distinctly visible, while the drum is retracted moreover, more so in some places than in others. When we test his hearing by whispered voice we find he hears distinctly at but two yards. The long perception of the tuning fork is heard longer in the diseased than in the healthy ear—evidence that the auditory nerve is unaffected. We next proceed to inflate the ear by my method, after which, if the membrana tympana is adherent only in places to the inner wall, we will see that it bulges outward everywhere except the points where the adhesions are firm enough to prevent it. He now, you observe, repeats correctly whispered words at from four to five yards. The permanency of the improvement can not now be foretold, and will depend upon whether the simple catarrh still exists. You may heal a suppurating middle-ear inflammation, but if an accompanying catarrh is still active the hearing will not be

restored, and may on the contrary even grow worse. Also changed normal middle-ear tension, through swelling of the Eustachian tube, may, after you have cured an otorrhœa, still defeat restoration of the hearing. At my examination after inflating this patient's ear, I noticed a faintly-reflected yellowish color from within the tympanic cavity—evidence, in my opinion, that we have to do in addition with a catarrhal exudation. We now do a paracentesis, and by combined tubal inflation and aspiration with a Delstance instrument remove a little slimy fluid, with the result you see of further improvement in the patient's hearing. He now correctly hears whispered words at seven yards. Whether the improvement will be permanent or not we will determine at our next meeting.

VIENNA, Oct. 28th, 1896.