CHRONIC AURAL CATARRH.

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Briefly stated, the object of my paper is to demonstrate the morbid changes that occur in the nose, throat and Eustachian tubes and tympanum in chronic aural catarrh. Before entering further upon this subject, a few words upon the importance of the structure involved. For practical purpose we may consider the middle ear as consisting of the membrana tympani, the tympanic cavity, the mastoid cells, the chains of ossicles and certain muscles, nerves, and vessels. We have here in a very limited space a set of delicate structures performing important functions, easily disturbed from the standard of health by a variety of causes, and attaining increased importance from their contiguity to such vital parts as the labyrinth, the internal jugular vein and artery, the dura mater, and several venous sinuses of the brain; one may be excused from thinking that, even if no alarm is felt for the tympanum itself, when attacked by inflammation, its anatomical neighbors might well command respect. Yet how often does the well-educated practitioner content himself with uttering a few common-places about the benign operations of nature, prescribing sometimes, while ulceration is quietly working its way among the structures of the tympanum.

If the profession at large would only keep in mind the pregnant fact that "every congestion of the lining membrane of the tympanum is a periostitis, and every ulceration of it a caries of the osseous walls that may lead to the most serious consequences," many lives would be saved, many useful ears would be spared. The seeds of most diseases of the nose and throat are generally laid in childhood, when the subjects of these troubles have suffered in early life from the exanthematous fevers to which they are so much exposed. In scarlet fever, measles and the like, that considerable area of mucous membrane which covers the pharynx and nasal passages is throughout affected, so that, as might be expected, long after these maladies have been recovered from a greater or lesser part of the area is found to have undergone change. There is little doubt that if, during the stages of these fevers,

more attention were paid to the local state of the nose, so many troublesome chronic affections would not be seen. Hence the various conditions which lead to aural catarrh and deafness. If we consider for a moment the structure which the mucous membrane of this region covers, we can map out for ourselves some of the probable results of acute inflammations affecting it.

Chronic aural catarrh is generally the result of acute inflammation of mucous membrane above mentioned, and is commonly due to extension from the pharynx along the Eustachian tube, which as we all know is the channel designed by nature for maintaining a due equilibrium between the atmosphere and tympanic air, and for draining superfluous mucous from the tympanum; when all these parts concerned are in a normal condition it admirably serves both these purposes; but, as I have shown, it serves also as a channel for conducting morbid material from the pharynx; and when we remember its shortness, and the continuity of its mucous membrane with that of the pharynx, it is far from strange that it should do so. The more closely we study the throat and nose symptoms in all aural diseases, the more frequently shall we find facts demonstrating that when these parts are morbidly affected, other organs, though remote in their positions, easily become involved.

In examining a case of chronic catarrh of the middle ear, with or without obstruction of the Eustachian tube, we will generally see, on looking at the throat, thick tenacious mucus adhering to the upper part of the pharynx and post-nasal region, and with this what is termed a granular pharynx, that is the back of the pharynx is seen to be studded with separate granular bodies. This morbid state often involves the post-nasal region, and by extension to the opening of the Eustachian tubes causes obstruction to the passage of air to the tympanum. In this region is found the adenoid tissue which was described by Luschka, which normally exists between the orifices of the Eustachian tubes, and the excessive development of this tissue takes the form of what we call adenoid vegetation and growth; this causes imperfect nasal breathing as well as obstruction of the Eustachian tubes. In this form the ailment attacks children and young or middle-aged persons. We all know the aspect of a child who is deaf from obstruction of the Eustachian tube; he is unable to breathe through his nostrils; the characteristic open mouth, the odd thick voice, the stupid look, and the fact of the child snoring when asleep bespeaks the conditions. When this condition is present, and when the tonsils are not found so very much enlarged, adenoid growths may be suspected and sought for. There are two ways to find these

growths—either by rhinoscopy or by the fingers. The value of the first has its difficulties; this applies to young children, and to young people who have shallow pharynx. I find it impossible to get clear reflection of the posterior nares. But a far more easy method is the finger examination; by touch adenoid growths may be easily recognized; it is as if the finger touched a bag of worms. If the patient is seated in a chair, the forefinger of the right hand, protected by a guard, may easily be introduced behind the soft plate; owing to the great vascularity of the growth, they bleed when touched.

The condition of affairs is easily diagnosed by the assistance of auscultation and Politzer's bag; by it we become informed whether the Eustachian tube is freely or partially penetrable by a stream of air; subsequently, by inspection of the membrana tympani, the cone of light and other general observations will wholly determine, with some precision, the nature of the alterations which have caused the deafness—not forgetting the valuable assistance afforded by the use of the tuning fork. There are other valuable aids in the diagnosis, such as the history of the case; the patient's statements; the origin of the disease; the kind, duration and degree of deafness. These are such common accompaniments of chronic aural catarrh, that it would be encroaching too much upon the valuable space of this Journal to describe them in detail. Passing on to the therapeutic management of these cases of chronic aural catarrh, the most efficient consists in thorough routine treatment of the whole naso-pharyngeal region by means of well-chosen sprays and pigments. Adenoid growths and hypertrophies of the nasal and post-nasal region, which impair the functions of nasal breathing and which fail to improve under mild treatment, must be reduced by an operation best suited to the case. For the post-nasal vegetations, I use my finger nail, after first making my finger and the parts aseptic; the nasal I remove by the galvano-cautery; sometimes I use trichloroacetic acid, each case being a law unto itself. The removal of any constitutional dyscrasia. Prescribing cod liver oil, syrup of the iodide of iron, tonics, and placing the patient under the most favorable hygienic conditions. In gouty or rheumatic cases we should, in addition, prescribe such constitutional remedies as are efficacious. After first inspecting the meatus and the drum-head, I determine the hearing distance and proceed to the examination of the Eustachian tube, forcing air into the cavity of the tympanum, and determine, by means of the otoscope, whether a current of air enters the cavity. When the hearing distance is improved, I proceed to use different vapors—iodine and ether, camphor, menthol and thymol. If there is excessive secretion from the mucous membrane of the tym-

panum and Eustachian tube, I use an injection of some mild astringent into the middle ear, continuing them twice a week. If I find no improvement after a few weeks' treatment, then there must be thickening of the mucous membrane, with rigidity and diminished mobility of the ossicles; for such cases I use injections of iodide of potassium, and aural massage; lately I have been employing a vapor massage by means of the universal Multinebular Vaporizer; in those chronic cases with thickening and rigidity of the ossicle, have found excellent results. Of course, a thorough routine treatment of the whole naso-pharyngeal region by means of well-chosen sprays and pigments must be kept up. As chronic catarrh is the commonest form of deafness, so is tinnitus aurium the most frequent result or sign of it. Distension of the blood-vessels in the tympanic cavity renders a beating or pulsating sound; by following Dr. Dundas Grant's method we can determine the location: "If pressure on the common carotid in the neck checks or diminishes the pulsations, the congestion is in the middle or external ear. If pressure on the vertebral arteries does so, it is in the internal ear, supplied by the internal auditory artery, a branch of the basilar, which is formed by the junction of the two vertebrals."* If I find stenosis of the Eustachian tube, I pass Jammarg's bougies, gradually increasing the size.

The line of treatment which I have rapidly sketched is not difficult of execution; nothing more nor less than common-sense applications of well-known principles of aural surgery; and with reference to the success I can only answer from my own experience and that of numerous others, that the results are quite as good as would be expected from the rational treatment of catarrh in such a situation. However, it is only through a competent knowledge of the anatomy and morbid appearance that we can even hope to fully understand the course of a chronic catarrhal affection, and to form a correct diagnosis as shall lead to successful treatment and permanent cure.

*THE LARYNGOSCOPE, July, 1896.