

Part Third.

PERISCOPE.

(Continued from p. 277.)

TREATMENT OF ANOMALIES IN THE SPANNING OF THE MEMBRANA TYMPANI. By Professor Dr JOS. GRUBER.

In my treatise in the last number,¹ I have, from anatomical and other researches, concluded that the normal spanning and vaulting of the human membrana tympani arise chiefly from conditions inherent in its own construction, and depend, to a very slight extent, to its natural attachments. From this fact we may, *a priori*, conclude that abnormalities in the spanning and vaulting of the drumhead depend upon pathological changes in the drumhead itself, without any change in those structures which are directly or indirectly connected with it. This must be established as an important fact. Indeed, we are so far justified in assuming that such changes in the structure of the drumhead which can give rise to irregularities in the spanning, bring secondarily the other parts of the conducting apparatus of the organ of hearing into sympathy, — a circumstance which, as yet, notwithstanding its vast importance, has not been taken into that consideration which it deserves. If I diligently search through the literature, as far as I am able, concerning the abnormal position and pathological changes of the drumhead, so I find they have placed its influence to destroy the hearing, etc., almost exclusively on account of its peculiar disturbance of function, and the chief detriment on the neighbouring structures, leaving almost entirely out of consideration the chain of bones of the ear. They have likewise always endeavoured to explain the imperfect FUNCTION by increased thickenings in the membranes by the so-called opacities, as if they held the thicker drumhead as more suited to reflect the sound-waves falling upon it than to conduct them further, without becoming aware of the fact that the disturbed function is also to be accounted for by the thickenings in the membrane at the same time causing excessive stretching of the drumhead. But however much this leaving out of sight of these secondary anomalies in the spanning of the drumhead has wronged our therapeutics, we see only now, when we observe that, in such excessive thickenings, operations which tend to relieve the abnormal stretching of the drumhead are often followed by the best results.

It is certainly superfluous for my readers to pursue this subject further, through what changes in the membrane itself excessive spanning can be brought about, or what conditions specially give

¹ *Monatschrift für Ohrenheilkunde*, June 1877, Berlin.

rise to relaxation of the drumhead. I have on several occasions fully entered into these conditions, and can simply point them out at present.¹ One only, and that because it appears to me of very special importance in relation to my clinical experience, will I relate with special emphasis.

Whilst increased spanning of the drumhead chiefly arises from morbid processes in the membrana tympani itself, or in neighbouring structures, the now so frequently occurring relaxations are undoubtedly the results of treatment for a disease of the ear, and, what is still worse, well-established aurists give the foolish public this method of treatment into their hands to produce such relaxations of the drumhead. Without further consideration, the laity are constantly given the air-douche into their hands, and ordered to drive air into the middle ear, whilst swallowing in all cases of supposed disease of the ear. One of our most precious means of cure, the application of the air-douche, which, under proper indications, and properly applied, is crowned with the best results, becomes, in this manner, mischievous; and when I reckon the number of cases of relaxation of the drumhead which now come under our notice, and compare them with those rarely-met-with cases in former years, I am again compelled to declare aloud at all times and in all places boldly against it. If we encourage it further, it will soon come to pass that both doctors and patients will discard it. The Politzer's method is now only in a few special cases required, and who does not take note of this will have many a sad experience.

After this short digression, I will now return to speak shortly of the proper theme of this paper, *i.e.* the treatment of anomalies in the spanning of the drumhead, in order that we may collect together several important facts bearing on the subject.

I will now speak of the treatment of these diseases in so far as it must be practised on the membrana tympani itself, and will, to render them more easily understood, divide the anomalies of spanning in the membrane into (*a*) excessive stretching of the whole membrane (total stretching); (*b*) excessive stretching of separate parts of the drumhead (partial stretching); then in (*c*) excessive slackness (relaxation) of the whole membrane; (*d*) parts of the membrane too relaxed; and in (*e*) a combination of these conditions, where separate parts of the same drumhead are too much stretched, others relaxed.

Each of these conditions demands a separate treatment for the drumhead itself without regard to that treatment, which still other

¹ See my treatises, "Concerning Anomalies in the Spanning of the Drumhead" (*Monatschrift für Ohrenheilkunde*, Jahrgang, v., 1871, No. 3, w. ff.); further, "The Frequent Puncturings of the Drumhead as a Means of Cure, of Primary or with Thickening coming on; Excessive Spannings of the Drumhead" (*Allg. Wiener Med. Zeitung*, 1873); further, "Concerning a Rare, and until now Undescribed, Anomaly in the Drumhead" (*Monatschrift für Ohrenheilkunde*, etc., No. 12, 1876).

possibly present changes in the organ of hearing would require, and of which we have not to enter into any further here.

It is perhaps a matter of course that we, in these anomalies of spanning which are conditioned by changes of structure in the membrane itself, can and shall practise all those methods of treatment from which we reasonably are justified to look for something. Thus we will, for instance, where excessive stretching of the membrane exists, if nothing to prevent us is seen, and the Eustachian tubes are permeable to air, certainly make use of the methodical application of the air-douche before all others, and assuredly in many cases we will find great benefit. Only we must proceed with the greatest foresight, because it very readily happens that separate somewhat more yielding portions of the drumhead, through the application of the air-douche, will be too much distended, and without benefit to the patient, whilst the truly stretched portions will not be distended at all through the application of the air-douche. From all these methods of treatment we will turn away, and will only speak of those operations which come under our notice in the treatment of the drumhead itself.

In relation to this, the question next arises, When can we operate in cases of anomalies in the spanning of the drumhead with regard to the result, and what operations are then indicated?

It would be easiest to say we should operate on the membrana tympani, if we are convinced of anomalies in the spanning of the membrana tympani by ocular and more extended means of examination. Such a doctrine is, on that account, not satisfactory, because the diagnosis of lower degrees of changes in the spanning, especially excessive spannings, is not so easily made out; and because further changes in the spanning in the drumhead are occasionally compensated by secondary changes in other structures of the auditory apparatus, we would then operate even without need for an operation in that case.

In more recent times I have promulgated a method of examination, with the assistance of those with whom we are in a position to determine with certainty whether we have diagnosed correctly if anomaly in the spanning of the drumhead be the cause of the disturbance to the hearing or not. It is this method which I have given in the *Allg. Wiener Med. Zeitung* (No. 7, 1877), and extracts of a comprehensive nature in this *Monatschrift* (No. 3, 1877), and I have only now to add that I have, up to this time, operated with the best results for improvement in the hearing in all cases, if the result of my examination with the tuning-fork pointed to an operation. The following facts to be stated in this work will throw light upon what has been already said. If the sounding tuning-fork, held before the external auditory meatus during the successful application of the valsalvian method of inflating the tympanum, is heard louder than before and after the Valsalvian method; if then the sounding tuning-fork, placed upon the vertex during the val-

salvian method, is heard less in the same ear as before and after the Valsalvian method, I observe in this result of my examination the indication for an operation for the already made out relaxed condition of the drumhead by the examination with the hand-mirror and speculum; and if the sounding tuning-fork before the external auditory meatus is heard at the same pitch during the Valsalvian method as before and after it, and it is also the same if the sounding tuning-fork is placed on the vertex, I observe therein an indication for an operation to better the hearing in the case of excessive stretching of the drumhead.

I further see an indication for operative interference to the same purpose, should the result of my examination give no more enlightenment in the case, if on one and the same drumhead partial stretching is combined with relaxation of another part, as such combinations actually come under our observation. In such cases it can readily happen that the application of the Valsalvian method causes, on the different parts of the drumhead, quite different results, and thereby the perception of the patient is not to be trusted entirely. The further objective examination, combined with the experience we gather in our clinical research, can then help us to determine if we should go on to an operation which we will dare to undertake so much the more pleasantly as all the operations which come to our help must be considered trifling when compared with the good result we are striving for.

Besides, every aural surgeon of experience knows that the object of our treatment in such cases is not the improving of the hearing alone; other subjective symptoms than impairment of hearing force us to operative interference, and in so far will we resolve in the one or the other case to an operation, even if my already expounded method of examination has given a negative result with regard to the hearing. I have to-day in my clinic, in presence of my hearers, performed the operation on a patient who suffered from fulness in the head and noises in the ears, which arose from the relaxed posterior superior quadrant of the membrana tympani being pressed upon the union of the incus and stapes, notwithstanding that the previously mentioned examination as a test for the hearing had a negative result.

(To be continued.)

TO SEE OURSELVES AS OTHERS SEE US.—In talking with one or two graduates and teachers of the Edinburgh University, I have learned of the existence there of an interesting regulation affecting the position of instructors, in the medical department at least, which obtains, so far as I know, scarcely anywhere else. It appears that, besides the regularly appointed corps of teachers, any person, after proving himself to be properly qualified before a certain examining-board, may open rooms and hold courses of lectures on any subject, attracting from the regular lecturers as