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ORIGINAL ARTICLES.

SAWS AND THEIR APPLICATION IN NASAL SURGERY.

Read in the Section of Laryngology and Otology at the Forty-third Annual Meeting of the American Medical Association, held at Detroit, Mich., June, 1892.

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Woakes used small saws, and Siler recommended them for the removal of bone tissue in the nose. Bosworth reported a series of 166 operations of deformities of the nasal septum, with a saw of his own device and since that time they have been used almost exclusively to any other.

It is the best instrument for removing small bony projections that I have used, yet there is trouble in using it where the septum is deflected and a broad surface to be removed.

In these cases soon after we commence sawing, the spaces between the teeth fill up, the saw will fail to cut rapidly, and we are compelled to use pressure, clean the teeth or change saws.

I have also had cases where it was impossible to enter the saw far enough, either below or above, to have stroke sufficient to do any satisfactory work toward the removal of the parts, also in operations which require a larger access to the nasal passages than the natural ones for the removal of tumors from the cavities or naso-pharynx, which require incisions of bone to be made for their removal.

Some years ago I had quite a series of the above class of cases and with the instruments I could command at that time my success was not as satisfactory as I wished for.

It was this that led me to undertake to try to devise a saw so constructed that I could use its extreme end for cutting purposes,attacking the tumor directly in front.

I have been endeavoring to produce such a device ever since, sometimes thinking I had succeeded, at other times failed, but to-day I take pleasure in showing you the instrument that is the result of my prolonged effort, which has not only proven satisfactory to myself but to others.

You will see by examination that it is not much thicker than the ordinary saw and that its edges are protected by steel shields so that it may come in contact with soft parts and not injure them. Being so narrow that they pass into the slot the saw cuts. It can be used in connection with or without grooved director. If the operator uses the director he should place it above the portion that is to be separated from the septum, then pass the shield of the saw along its narrow groove, thus directing it through the surfaces to be cut with precision and certainty. I have seen cases where the grooved director could not be passed above the part. In these cases a hole can be bored through with a twist drill connected to the cable used to run the saw, so that it will do its work quickly. The grooved director can be passed through the opening thus made and the saw used as before described. This is not necessary, as a rule, in hands that have practiced the use of the saw with a view of studying direction.

The shield must be kept in the groove of the director and the cutting end of the saw parallel to a line that would correspond to the side of a normal septum.

The distance which the saw is to be carried into the nasal passages can be determined by measuring first with a probe, the distance from the anterior part of the nose to the posterior surface of the part to be removed, then place this measurement on the saw. This is not necessary to one accustomed to its use as the sense of touch will tell us when it is through. In this way we remove the part much more quickly and with less pain to the patient, and the plane of the part left will be straighter than it could possibly have been made with the ordinary saw used, which is liable to leave an uneven surface.

Bosworth, in his book on diseases of the nose and throat, page 304, makes the following statement in operations for fractured septum with thickening: "Objection has been made to these operations that they result in ulceration. Now, I wish to say, in as positive a manner as possible, that in no case have I had any such result. The subsequent treatment is nothing. The healing process requires no attention. The parts heal up kindly, and, as a rule, with no unpleasant symptoms during the process. It has been charged that bad cicatrices result. Again, I say that I have seen no such result in any case. The mucous membrane re-forms over the cut surface and at the end of two months it would be difficult to recognize the fact that any cutting had been done. Too much importance cannot be laid on the necessity of a perfectly straight, smooth-cut surface. In one or two instances in operating I bent my saw, which is exceedingly flexible, in such a way as to make a hollow cut, sawing in a curve, as it were, leaving a depression on the surface of the septum. Whenever I have made such a mistake there has been exceedingly great annoyance from delayed healing, owing to the fact that mucus and bloody pus accumulated in the depression and formed crusts, and thus markedly interfered with the healing process. And herein, it seems to me, lies an objection to the rougher operation of the gouge and the forceps in removing these obstructions, as leaving an irregular surface for the lodgment of mucus and secretions. We meet with no ulcerations in the nasal cavity, except as a result of syphilis or some blood-poisoning.

"Delayed healing may occur,but not ulceration,after the operation, and delayed healing, I am positive

can only be the result of unskillful operating.' Thus Dr. Bosworth testifies to the value of the plane surface.

Knowledge alone is an excellent thing, but knowledge and skill combined are what are necessary for the proper use of any instrument. Whatever saw we may use we must, by seeing, get our starting point and direction, then follow that course even though our light may be shut out. This skill cannot be acquired without patient practice; it need not be on the dead or living human subject because as long as we have butcher shops, material will be abundant. In order to distend the nasal opening for these operations or any otherpurpose, I have devised a nasal speculum which is self retaining if properly introduced. They are made out of steel piano wire and accomodate themselves to almost any form or size of opening without any material increase or decrease of pressure, because of a spiral spring arranged in connection with two rings which hold the nose sufficiently open. This is an advantage as it does not cause the patient pain by unnecessary stretching of the parts and therefore may remain as long as is needed. If it does not sufficiently open the nose for illumination another one may be placed with one ring against the septum the other one against the wing of the nose and neither one be in the way of the operator, whether they are used for explorative or operative purposes. I scarcely ever find it necessary to use more than one, and when I use but one in connection with the saw I always place one ring in the roof and the other in the floor of the vestibule of the nose, thereby making an oblong opening, the long side of which corresponds to the side of the saw and the narrow to its edge, which gives a chance to move the point of the instrument up or down in case the part to be sawed off is so wide as to make this movement necessary.

It will be observed in my paper that I have confined myself exclusively to septal thickenings with or without deflection, at the same time I may be permitted in conclusion to observe that this instrument may be effectively used in any of the various procedures in internal nasal surgery.

TREPHINING FOR MASTOID ABSCESS; WITH NOTES OF THIRTY-TWO CASES OPERATED ON AMONG 3,400 PATIENTS SEEN IN 1889, 1890 AND 1891.

Read before the Section of Laryngology and Otology, at the Forty-third Annual Meeting of the American Medical Association, held at Detroit, Mich, June, 1892.

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It is natural that otology should have shared in the general advance of surgery, and that there should be increasing resort to surgical measures in all aural cases where experience has shown that all milder measures are slow or inefficient. How far we will be justified in operative interference in the lines where other measures can often succeed, if persistently employed, or where failure would mean nothing very serious to the patient, are questions which we can leave to the gradual growth of experience. But there is a large and growing group of conditions where we have less free choice. There are cases where not a pound or even a ton of belated cure will avail; where the indications for operation may appear once only accompanied by conditions favorable to success, and in failing to take advantage of that opportunity we may seriously or fatally betray the confidence which has been bestowed in us as medical men. The indications of such conditions are not fully defined, and each case, in some measure, must be judged by itself; but certain principles have been fairly demonstrated anatomically and clinically, and their application in practice must be considered conscientiously by every man who assumes or retains charge of an aural case. The surgical enthusiasm of some men for special operations, or for operating in general, may need to be discounted; yet the fact remains that timidity does not constitute caution, nor is inaction always masterly and conservative.

One of the directions in which surgical intervention is generally called for, and sometimes most imperatively, is the matter of suppurative involvement of the mastoid portion of the temporal bone. Here we have a tract more or less prone to suffer from tympanic inflammation, surrounded by most important structures, and by its anatomical relations liable to have its lesions serious not only in threatening the hearing and other functions, but even imperiling the life.

I believe that there are many who have had such an experience as my own, and many more to whom the same is soon to come; and to these, these notes may have something of help. During the earlier years of my aural work few cases came to view in which questions of life and death seemed to press upon me for a prompt decision. Cases of mastoid empyema were rare and less surely recognized, the indications for operation were ill-defined, and I preferred to drift, congratulating myself upon my "masterly inaction" if the case came through safely, and laying no blame upon my timid conservatism if I failed, especially if I had done the daring deed of cutting down upon the bone, and rested content to proceed no farther. Having never seen a mastoid formally trephined in life, nor done it more than very rarely on the cadaver, its dangers and uncertainties seemed far more evident than its benefits; and cautious consultants restrained me when inclined to proceed at all boldly. Nor indeed, looking back, can I blame myself for more than one or two fatal sins of omission, and those with a saving question whether timely operation would have changed the result. With increased experience, widened practice and the epidemic of "la grippe," I could no longer hold such a position. The cases have multiplied around me in which the question of operation pressed, and there were many where the urgency could not be evaded. In the past fifteen months nearly forty cases of fluctuating swelling or other evidence of mastoid inflammation have aroused my solicitude; and while some have offered no alternative but immediate operation, many have been first vigorously treated with antiphlogistic measures and have fallen into three groups, where either resolution was secured, where operation had to be done later. or where the diagnosis cleared up and a mere superficial glandular abscess was found to constitute the true condition. Simple incision through the soft tissues has sufficed in a group of cases to secure fairly prompt and satisfactory results, no serious necrosis of the bone being found to demand further intervention. Yet there have been at least fifteen cases where it has been necessary to attack the bone, and it is to such that I would espe-