THE BEST MEANS OF REMOVING NASAL OBSTRUCTIONS, WITH REPORT OF 264 CASES.*

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The subject to which I wish to direct your attention for a few moments will be simply the method which I have employed for the past few years in the reduction of nasal obstruction. I do not propose to enter into the symptomatology or pathology of this condition, but simply to bring before you my method of treating this class of cases. I do not claim for this method that it is better than some others, but simply as practiced at present it has given me better and more permanent results than any other method with which I am familiar.

The numerous methods that have been proposed from time to time for dealing with hypertrophied conditions in the nasal cavities is our best proof that no one method has proven entirely satisfactory. Each has adopted the method at which experience has proven him most adept, and hence of the many different procedures advanced, all have had their advocates.

The inter-dependence of local symptoms and general effects resulting from improper nasal respiration upon the health, development, and general well-being of the individual is being more fully recognized, even by the laity.

When a patient complains of a continuous or intermittent inability to breathe satisfactorily through the nose, in the great majority of cases the difficulty arises from an enlargement of the tissues constituting or covering either the middle or the inferior turbinated bodies. Not infrequently the obstruction arises from some other cause, as a deflected septum, or a spur, or nasal polypi, but it is chiefly the obstruction caused by hypertrophy of the turbinates, and their surgical treatment that I wish to direct your attention.

It is now generally accepted that the inspired air secures its necessary warmth and moisture by passing over the mucous mem-

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brane lining the upper portion of the nose, and that the expired air passes out along the inferior meatus. When these passages are obstructed it is useless to formulate any set rules as to how they should be treated, but each case must be studied separately, and

Fig. 1. Showing the proper position of the author's narrow saw so that only the lower edge of the turbinate bone will be included in the operation.

treated by that method which has been most successful in your hands.

The object of most nasal surgery is to increase the sum total of nasally inspired air, with as little destruction or injury as possible of the over-lying mucous membrane.

For a number of years the use of the galvano-cautery seemed best adapted for this purpose, but it has many objectionable features, and I now find myself resorting to the cautery less and less, each year, since more satisfactory and more permanent results can be secured by other means. My experience has been that more damage results to the mucous membrane from repeated cauterizing than results from a clean surgical operation along the under surface of the bone, where the glands are few and the hypertrophied tissue is most marked. This is especially true with the inferior turbinate, and it is next to impossible to properly cauterize the posterior end of this body, where the hypertrophy is most marked. The reaction resulting from the cautery and the danger of synechia following, together with the fact that these patients are prone to return in a year or two complaining of the same symptoms, have caused me to largely abandon the cautery treatment.

Figure 2. Author's saw with straight set teeth.

The method of sub-mucous puncture, advocated before this society at its last meeting by Dr. M. A. Goldstein, I have tried in a number of cases during the past year. It seems well adapted to the beginning stage of hypertrophy, but sufficient time has not yet elapsed to judge of the permanency of the scar thus formed.

One objection I found to Dr. Goldstein's canula was that the opening was too small to allow the passage of a chromic acid bead of sufficient size to accomplish the desired results.

Applying the same principles to intra-nasal surgery that we apply to surgery of any other portion of the body, seems reasonable. A thoroughly aseptic operation within the nose is not possible, but the parts should be rendered as aseptic as douching with a warm saline solution can make them, since much of the success of the operation will depend upon this principle. With clean nasal surgery there is less destruction of the mucous membrane, since only the pendulous portion is removed, and for this purpose the saw and scissors have given me my best results.

It is of the utmost importance that these two instruments be of the right size and form. Most of the nasal saws on the market are too broad in the blade, and it is impossible to turn them after insertion, so as to cut at almost a right angle with the septum. The saw must have a firm handle, but very narrow, flexible blade.

The saw I have had constructed by Max Wocher & Sons (Fig. 2) has the blade 5 inches long and $\frac{1}{8}$ inch wide, with straight set teeth, so as to cut on the forward and backward stroke. I make it a rule to have the saw sharpened after each operation, as there is as much difference between a sharp and a dull saw, as there is between a sharp and a dull razor.

Beckman's straight nasal scissors have proven very satisfactory for this operation, as they will cut out at the very tip, where most nasal scissors fail to cut.

Figure 3. Beckman's Nasal Scissors.

In order to avoid the tendency to spring apart at the tip, when cutting a hard substance, as the posterior edge of the turbinate bone, I have had constructed a pair of scissors in which only the anterior half of the two blades are cutting surface, since this is the only portion of the cutting surface which can be used in the nasal cavity. By this construction we get a strong and at the same time narrow blade.

With properly constructed instruments which are kept in first class order, the operation is quickly and easily done. I know there are many objections to this method of reducing nasal obstructions, but I feel that much of the objection arises from a misapprehension of the operation, or an attempt to do the operation with improper instruments, or a failure to select suitable cases.

It is not a removal of the turbinate bone, as the name turbinectomy would imply, but is rather a turbinotomy, in which only a small portion of the under edge of the bone is removed. I have never yet removed a turbinate body, unless it were the middle, for some definite purpose, as drainage, or to gain access to some of the accessory cavities.

The operation which I have practiced for several years, consists in a removal of the redundant tissue. That the scar resulting from this may be lasting, I always aim to remove a very small portion of the under edge of the bone. (See Fig. 1.) Often this sliver of bone is so small that it is scarcely perceptible, but the success of the operation consists in getting a linear scar, along the entire under edge of the turbinate body, since it is by means of this scar that the permanency of our opening is to be maintained, and the blood supply cut off, from the overlying connective tissue. During the past ten years I have had occasion to do this operation 264 times on 155 patients, and in about 2 per cent of my cases there

Figure 5. Holmes' Middle Turbinate Scissors.

has been a regeneration of tissue at the site of operation. Why it occurs in some cases, and not in others, I have never been able to discover. I have never yet operated the second time, but a few patients will need the secondary operation in order to secure the desired results. All of these cases where a secondary operation is indicated occurred during my early experience with this operation, and at that time I was hearing so much about hemorrhage and pharyngitis sicca following this operation, that I was inclined to be most too conservative in the amount of tissue removed. I am satisfied after considerable experience that both of these dangers are insignificant. I have never seen a case of pharyngitis sicca resulting from this operation either in my own practice or that of another. The secret of the whole operation consists in the removal of a

small sliver of bone, along with the redundant tissue. For this purpose the saw is far superior to the scissors, since there is no crushing of the bone, and the resulting scar is more permanent.

For the removal of the middle turbinate I find the scissors devised by Dr. C. R. Holmes (Fig. 5) admirably adapted for this purpose, and they have simplified operations in this region of the nose very much.

The advantages of operating with the saw and scissors, are that the technique is simple, the instruments required are few, and inexpensive, and no cauterizing outfit is necessary. Then, too, the parts operated upon are constantly under the eye and direct control of the surgeon, and as much or as little tissue as is necessary can be removed. The operation requires but a few moments, is painless, and bloodless, and as a rule the results are permanent.

I have operated upon a number of medical men, who should be competent to judge as to results, and they have all experienced permanent relief. Indeed the operation has been so satisfactory both to myself and patients that it is seldom I now resort to any other method.

I shall only take a moment of your time to demonstrate a few steps of the technique; as much depends upon this.

After douching the nose with a warm normal salt solution, pledgets of cotton dipped in a 5 per cent solution of cocaine are carefully packed around the turbinated body. The first pledget is carried up under the scroll-like edge of the turbinate, (Fig. 1) as here is where the first incision is to be made. From six to eight pledgets of cotton are packed in. One of these pledgets I dip in a 1 to 3,000 adrenaline solution to control the hemorrhage. These are left in for ten minutes when they are removed, and the parts inspected again to decide how much tissue to remove. A fine, straight saw is passed along the floor of the nose, and brought up under the scroll-like edge of the turbinate. It is passed back till its blunt end infringes upon the posterior wall of the pharynx. It is now withdrawn about three-fourths of an inch, which gives you the length of your stroke, and is then turned so as to cut almost at a right angle with the septum. Half a dozen strokes with the saw and a thin sliver of bone is removed from the under surface of the turbinate. The author's nasal scissors (Fig. 4) are now passed in, the lower blade following the saw cut, and the hypertrophied membranous portion is removed. Frequently upon inspection we find a small portion of the posterior end of the turbin-

ate has escaped both the saw and scissors. Under direct illumination a wire snare can be made to engage this portion and it is removed. It is very important to get this posterior end of the body, else it will swell again and our operation will not be complete. The nose is douched again, and a light gauze packing which has been dipped in a 1 to 3,000 adrenalin solution is applied. The patient is instructed to go home and keep quiet, preferably in bed. On the following morning packing is removed, the slight hemorrhage which follows soon ceases, and the operation is over. The

Figure 4. Author's Nasal Scissors

nose is washed out twice a day by the patient at home with a warm alkaline solution, and healing is complete in a week or ten days.

Recently I have been leaving the packing out, and simply dusting the parts with the powdered supra-renal gland. The patient is given a powder blower, with a small portion of this powder, and instructed to insufflate a little of the powder every two or three hours. So far it has worked very satisfactorily.

This operation has proven so satisfactory both to myself and patients, and the relief experienced is so marked, that I rarely find it necessary to resort to any other method.

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