

Surgery of the lateral nasal wall in atrophic rhinitis and ozena

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Fortunately, ozena is no longer a frequent disease in our society. When, however, we nevertheless encounter a new case we know that we have are faced with a serious problem: a patient with very severe symptoms, a challenge to our surgical capability.

In cases of atrophy with limited crusting and without foetor, conservative treatment will generally suffice. But in serious cases we will probably all agree that we can do more for the patient with surgery. One of the characteristics of ozena surgery is that the more carefully the operation is carried out, the better the results. This might seem obvious, but in many other types of surgery a careful and a very careful operation both lead to the same good results. In ozena, however, there is — at least in our experience — a direct positive relationship between the quality of the surgery and the amount of improvement.

The method we use in our Department was introduced to us by Cottle et al., in 1961. The technique embodies an endonasal submucous implantation into the septum, the nasal floor, and the lateral nasal wall. We might call this method the "all-walls" technique, in contrast to the earlier methods consisting of implantation only into the septal space or the nasal floor. The principle of implantation into all three nasal walls was first described by Sigmund Unterberger in 1929.

If we take a close look at the changes that take place in the nasal cavity in ozena, we note the following:

1. A widening of the nasal cavity, which is most severe a) in the posterior part of the nasal cavity and b) in the inferior and middle nasal passages.

The reason for this condition is probably to be sought in the atrophy of the turbinates. It is well known that in ozena all tissues — i.e., the mucosa, submucosa, cartilage, and bone — show atrophic changes. The greatest reduction in volume, occur, however, in the turbinates. Since, moreover, the turbinates protrude into the nasal cavity a shrinking of these structures makes a greater contribution to the enlargement of the nasal cavity than does the atrophy of the nasal walls and of the mucosal covering.

Because the turbinates occupy about 50 per cent of the space in the anterior half of the nasal cavity and about 70 to 80 per cent of the space at the level of the choanae, the greatest widening is to be expected in the posterior half of the nose.

2. The crusting is mainly located in the posterior parts of the nasal cavity and in the middle nasal passages. The marked formations of crusts in these regions in particular is probably due to excessive widening in these regions. A second factor is undoubtedly the route taken by the inspiratory air stream, which lies mainly in the middle nasal passage.

Surgery for ozena should therefore be directed in the first place to the narrowing of the inferior and middle passages of the posterior half of the nasal cavity. The same conclusion can be drawn from our surgical data. Reëxamination of these cases showed that the best results have been obtained in the patients in whom the narrowing of the posterior and inferior part of the nose has been successful.

Experience has shown that narrowing of the nasal cavity can best be obtained by implantation into all three walls, especially the floor and the lateral nasal wall. Implantation into the septum has certain limitations and is not as well tolerated, particularly when carried out bilaterally.

The technical aspects of the operation can be summarized as follows:

- The operation is done under local anesthesia, since a bloodless surgical field is extremely important.
 - In most cases one side is narrowed at a time, partly to avoid too long an operation, partly to avoid too much interference with blood supply.
 - A septal tunnel is made through a right-side hemitransfixion, a tunnel in the nasal floor is made via a maxilla-premaxilla approach, and a lateral tunnel is made via a vestibular incision.
 - The three tunnels are connected and then continued as far as possible toward the choanae.
 - The bony skeleton of the lateral turbinate is disconnected from the lateral wall with a 7 mm chisel and moved medially.
 - The lateral tunnel is extended cranially as far as the ethmoid, carefully avoiding the maxillary ostium, and is then continued up to the tubal orifice.
 - The implant material is inserted, and great care is taken to achieve sufficient narrowing of the posterior and inferior parts of the nasal cavity.
 - From 1962-1972 Boplant[®] (Squibb) has been used with satisfying results. After this material was taken out of production homogenous rib-cartilage has been applied with much less success because of rapid reabsorption. Since 3 years Kiel-bone (Kieler Knochen[®]) is used with good results.
 - Great care is also taken to accomplish a smooth and regular narrowing.
 - If a perforation is accidently made in the mucoperiosteum or mucoperichondrium, we refrain from any implantation of heterologous material in that region.
- A connective-tissue graft (bank-pericardium or fascia) is inserted as an "underlay".

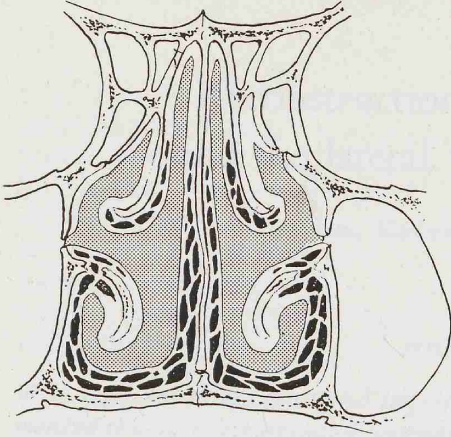


Figure 1. Implantation in all nasal walls for the treatment of ozena.

— If the space at the level of the middle turbinate shows considerable widening, some material is also implanted in a small tunnel made on the medial side of this turbinate.

On the basis of our experience, accumulated over a period of 14 years in 160 operations, the method originated by Unterberger and improved by Cottle is still our treatment of choice for ozena. The two points I would like to stress here are that in ozena-surgery:

1. implantation into lateral wall into the floor is more effective than implantation into the septum, and
2. narrowing of the posterior half of the nasal cavity is more effective than narrowing of its anterior part.

REFERENCES

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