TREATMENT OF OZENA BY THE SUB-MUCOUS INJECTION OF PARAFFIN INTO THE NASAL SEPTUM, WITH A REVIEW OF OTHER METHODS.*

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The term "ozena" has been so firmly engrafted into our medical terminology, that it will be with difficulty uprooted. At a meeting of the American Laryngological Society, it was suggested that the term "atrophic rhinitis" be substituted. This action does not seem to have met with the approval of the medical profession, so the old term still stands for the characteristic symptom-complex.

The term "ozena," as I take it, is a combination of symptoms both subjective and objective. The subjective are, anosmia, a feeling of insufficient air-space in the nose, (due to the accluding crusts), a disinclination for mental application, lack of ability to concentrate, and the withdrawal from social intercourse; making almost a recluse of some patients.

The objective symptoms are, pus, crusts, fetor, atrophy of the turbinates, and a secondary dryness of the pharynx, laryngitis, bronchitis, and even sometimes gastritis, and changes in the mucus membranes of the nose from a columnar secreting surface, to a dry stratified, epithelial one.

A condition that produces such profound changes and as much distress as this, is worthy of our best efforts to combat; and any measure that offers even a palliation must be considered.

The etiology of the disease is not on a sound basis. Many theories have been advanced, but none seemed to have solved the riddle. No specific organism has, as yet, been definitely proven as the causative agent.

The following classification may be used as a working basis:

1. Extra-nasal—suppurating adenoids. (Hajek).
2. (a) Sinusitis; (b) non-sinual mucus membrane infection.

We now come to the main thesis, the treatment, which may constitute:

(1) Cleansing and deodorizing; (2) surgical; (3) injection of paraffin.

1. The cleansing and deodorizing is the oldest method of treatment and consists of first ridding the nose of crusts, either by

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displacing them with a forceps, or by the application of a Gottstein tampon. That is, to pack the nose firmly with many small cotton pledgets allowing the pack to remain for a time, (one-half to two hours) then removing. The crusts are loosened by the pus, that is secreted, then they may be removed painlessly and without hemorrhage, which cannot usually be avoided by simply pulling them out with the forceps. After the nose is cleansed, a 1 per cent salicylic ointment, or an ointment consisting of menthol gr. 1, ol. eucalyptus M. 20, and vaseline 1 ounce, is applied by the operator, and afterwards by the patient himself, he soon learning the use of an applicator armed with cotton.

Many other applications, sprays and snuffs have been advised—1-10000 potassium permanganate, hydrogen peroxide, 1 per cent ichthyol, 10 to 50 per cent argyrol, 3 to 5 per cent protargol, 1 per cent oil of mustard, nitrate of silver in various dilutions, zinc chloride solutions, citric acid 50 per cent in sugar of milk, etc., ad infinitum.

All of these drugs and methods usually give relief during the time of their use, but when discontinued, the patient relapses into his original condition, discouraged and disgusted.

2. The surgical treatment consists of an attempt to open and drain the affected sinuses. Many times it is impossible even by the most painstaking examination to determine which of the sinuses are diseased; and, if accurately diagnosed, the operation does not always stop the pus-formation. Again, no sinus suppuration can be found, even after repeated examination. The mucus membrane furnishes the base of the process.

It is now generally acknowledged that the cleansing and deodorizing methods, as well as the ordinary surgical procedures are inadequate, since neither produce, except in occasional cases, lasting and permanent results. Therefore we are compelled to look to other means for the relief of these patients.

3. The method, about to be described, gives lasting and permanent relief from the crusts, odor, the secondary pharyngitis, laryngitis, etc.

Zaufal pointed out that the crusts were formed by the rapid evaporation of the moisture due to the large volume of air passing over the slowly secreted pus. The odor is due to the decomposition in and under the crusts.

The problem presented, then, is first, either to stop the secretion of pus, and thus prevent the crusts, odor, etc. This, we have, so far not been able to accomplish by any method known at this.

time, or secondly, to prevent the formation of crusts, or to facilitate their removal quickly and easily. This, we have been able to do, by reducing the size of the nasal cavity, thereby reducing the volume of inflowing air. This phenomena may be noted in ozena-patients whose nasal septa are deviated, or whose septa carry a large spur or crest in the side of the nose that is very large and patulous, where we also find crusts and odor, while on the narrower side, only fluid pus, or very small crusts that may easily be blown out. To reduce the size of the nasal cavities, we use hard paraffin. We have the choice of two locations for injection. First, the turbinals and preferably the lower, have been injected. This method has given some fair results, but it is open to some very serious objections. It is very painful, only a small amount of paraffin can be injected at one time, hence numerous sittings; and there is more or less danger connected with the procedure. Brain symptoms, blindness, and thrombosis of the cavernous sinus have followed in the wake of an injection.

The place of election, as suggested by Wilimensky,* and the one I have for the last few years practiced, is under the mucus membrane of the septum. The object has been to produce large artificial spurs or crests between the base of the inferior and lower border of the middle turbinates. The method of procedure adopted is as follows:

The nose is cleared of crusts and pus as well as possible for a few hours before the operation, by douching or spraying with any mild antiseptic solution. To the septum, is then applied a solution of 10 per cent of cocain, hydrochloride and 1-2000 adrenalin to the point of complete analgesia. As for the septum operation, Beck's self-retaining speculum is then inserted. A small incision is then made in the septal mucus membrane down to the cartilage, then the dissection of the mucus membrane and perichondrium to which it is attached, is begun with Hajek's sharp separator, and when the perichondrium is well loosened, the blunt separator of Hajek or Freer is used to complete the dissection which is carried well back to the bony portion of the septum.

The dissection is usually not difficult, but care should be exercised to get under the perichondrium at the beginning, and to remember that we are dealing with a very thin mucus membrane. Now, a blunt tubular tip is attached to a filled Onodi paraffin syringe, inserted into the pocket, and the paraffin (melting at about 40° C), slowly injected until a very large projection is noted. When enough has been introduced, the tip is slowly withdrawn, care being taken

that the force has been spent, and the paraffin thread broken. These precautions are necessary to prevent any paraffin being imprisoned between the lips of the incision, which will prevent healing, and allow the expulsion of the paraffin. A No. 0 catgut is used to make the one stitch necessary to close. The patient is allowed to go with the caution not to blow his nose for twelve to eighteen hours. In a few days, to two or three weeks, it will be found that there are no more, or only very few small crusts that may be easily blown out. The foul odor has disappeared, and the other secondary symptoms will soon disappear. Both sides may be done at one sitting, or at intervals of a few days.

No complications secondary to this procedure have ever come to my notice. In two of my cases, the paraffin was expelled after a couple of months. Still, a good result was obtained.

The one difficulty of the method lies in the atrophic condition of the septal mucous membrane. Occasionally one finds that it is impossible to dissect the membrane from the cartilage, in which case, a sharp-pointed needle must be used and inserted under the septal perichondrium, and the paraffin injected hypodermically, as suggested by Faith. Care should be exercised that the needle does not penetrate the septum and that you do not button-hole the mucus membrane.

In conclusion, I believe I am justified in saying that the sub-mucus injection of paraffin into the septum of the nose offers a safe, satisfactory and easy method for the treatment of the very distressing symptom-complex "ozena."

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Recurring Mastoiditis. S. V. W. JANTZEN, *Ugeskr. f. Leger*, Jan. 26, 1911.

Jantzen tabulates the details of twenty-one cases of recurring mastoiditis in which a second operation was required; the total mastoid operations at Mygind's clinic during the period 1905 to date was two hundred and twenty-five. Only one of the patients with recurrence was an adult. The interval ranged from a few months to five years. He discusses the causes for recurrence and the means to avoid and treat it, reviewing considerable literature on the subject.—*Ex.*