hard enough to be easily engaged with a cerumen hook can be drawn through a suction tip. It is the purpose of this report to emphasize this fact.

The "suction method" which has been described requires no special apparatus other than that found in a good general hospital or in the office of the average ear specialist.

395 Commonwealth Avenue.

TREATMENT OF CHRONIC SINUSITIS WITH IODIZED OIL

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The injection of iodized oil into the sinuses has been carried out for many years—being first, and more popularly, used as a diagnostic means. Recently Goodyear [1] has laid emphasis on the value of the oil as a therapeutic agent for disease of the sinuses. His pronouncements have given rise to a certain amount of controversy. It is with this in mind that I presume to relate my own observations.

Like Goodyear, many who have used the iodized oil have noticed that patients volunteered the information that the side on which the oil had been injected for diagnostic purposes felt vastly relieved after the "treatment." This was surprising, as no attempt at formal treatment had been made. This effect was often obtained when the condition was bilateral and similar shrinkage had been applied to each middle meatus. The feeling was that the oil was a factor in the improvement, rather than the shrinkage of the ostium, which Van Alyea had suggested might be responsible. However, I did not routinely use the agent generally employed (which was 40 per cent iodized poppyseed oil in 50 per cent combination with liquid petrolatum), as occasionally I noted an annoying acute exacerbation of the symptoms on the side of injection, suggesting that the oil was irritating to some people. For the past three years, however, I have been using 27 per cent iodized and 7.5 per cent chlorinated peanut oil [2] in 50 per cent combination with oil of sesame.

This combination of oils is more readily injected because of its lower viscosity. It is of sufficient density to cast a sharp shadow roentgenographically, is less expensive than the undiluted oil and appears to have therapeutic value. There have been no unpleasant vasomotor symptoms in the nose after its use, except in 2 patients who were found to be sensitive to iodine in any form. In 1 of these patients there developed a watery edema involving the subcutaneous tissues beneath the mandible from one side to the other for nearly 1 inch (2.5 cm.). The patient afterward announced that a similar reaction had occurred when he had taken iodine by mouth. This reaction seems to point clearly to the absorption of iodine by the tissues, even though, as Proetz remarked, the solution employed is chemically inert, in fixed combination, and the iodine is not given off separately.

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1. Goodyear, H. M.: Use of Iodized Oil in Treatment of Infections of the Nasal Antrum, Arch. Otolaryng. **34**:1133 (Dec.) 1941.

2. The preparation used was iodochlorol (G. D. Searle & Co., Chicago).

In my experience the most spectacular results have been noted in cases in which a partial allergic or vasomotor background may be suspected. The mucous membrane usually is not the angry red which one associates with true infection, but is more pallid—being overmoist and shining, a membrane which does not

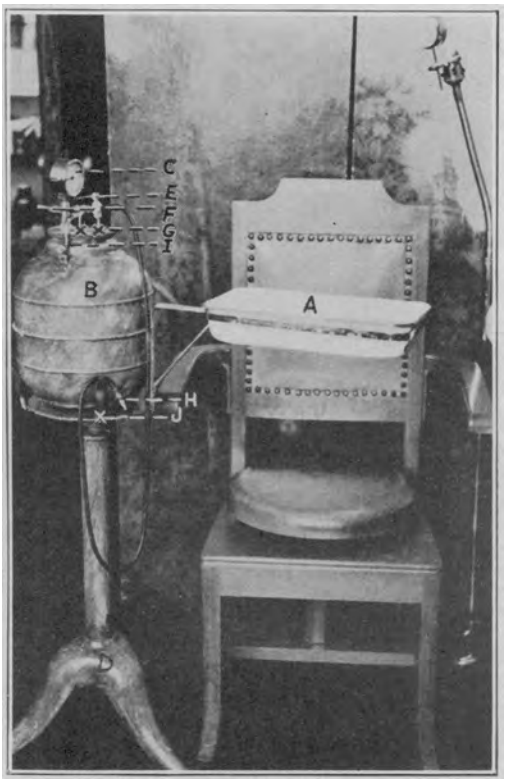

Fig. 1.—My apparatus for washing out sinuses. It has simplified the technic, so that no assistant is needed.

A, enameled pan, over which the patient leans. *B*, a 1 gallon (4 liter) picnic jug. When half filled with solution it will stay sufficiently warm all day. *C*, pressure gage. This is not absolutely necessary. I never use a pressure of over 5 pounds (2.3 Kg.). *D*, movable base (on casters). *E*, three way valve. When the valve is moved one way, solution flows up from the jug and out the rubber tube. When it is turned another way, air, from the compressed air space above the fluid, comes out the rubber tube and blows the solution out of the sinus. *F*, ball valve. At its end is the female coupling, which connects with the Deviliss cut-off. Compressed air put in here remains in the upper part of the jug. *G*, metal tubes, which pass through the cap down into the jug. One is short and goes only into the air space below the cap; the other goes to the bottom of the jug. *H*, slip joint fastened onto the end of the rubber tube, with a shield at its proximal end. Distally it fits into the Littell cannula. A lock joint is not used, so that excessive pressure cannot be built up in the sinus. In the only case in my experience in which air embolism was feared, I used all the pressure I could muster to force the flow in a refractory antrum. *J*, turn table, which allows the apparatus to be turned on the pedestal.

shrink well—the picture suggesting an oversupply of serum in the submucosa. I have attempted to substantiate this observation by the determination of eosinophils in nasal smears and have found the results inconclusive. It is an impression which one must often get from clinical observation only.

My experience has also been most favorable in cases of the subacute or chronic condition. The acute disturbances do quite as well with lavage, or lavage followed by the injection of a 5 per cent solution of sulfathiazole (2-[paraaminobenzenesulfonamido]-thiazole). But lavage is less dramatic with low grade disturbances, and it is here the injection of oil occasionally seems to have a place.

It is my practice to lavage the sinus through a cannula placed in the middle meatus—either through the normal ostium and the accessory ostium or through the membranous portion at the tip of the uncinate process. When pus is present in any amount it seems best first to lavage the sinus and then to blow out the irrigating solution (physiologic solution of sodium chloride) in order to obtain a comparatively dry sinus before injecting the oil through the same cannula.

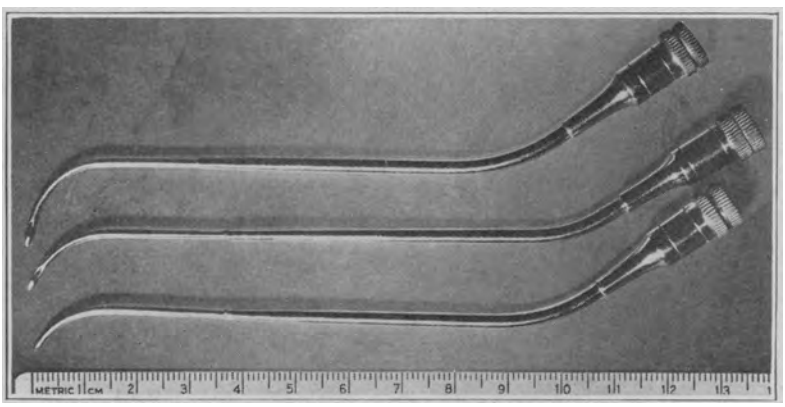

Fig. 2.—The cannulas are arranged in the order of their importance from below upward. The lower one will enter the greater majority of antrums; the upper is useful in the unusual case, in which the lateral wall of the middle meatus has to be reached around a heavily projecting inferior turbinate body.

The aperture at the large end is a slip joint, so that excessive pressure will not be built up during the lavage. I never exceed a pressure of 5 pounds and use even that with caution.

The cannula (made by Storz) which suits my purpose best (where is the specialist who will not insist on designing his own instruments?) is a modification of ones previously developed. The instruments, of shapes which allow entrance into almost any antrum, are pictured here. The cannula is rigid; the terminal, or delicate, portion is of stainless steel, is small enough to pass through constricted areas without undue force, does not obstruct vision and is strong enough to break through the wall if necessary. The tip is semisharp to make the last procedure more easy. The lumen is of sufficient size to allow liquids to pass with ease.

In casting about for a satisfactory explanation of the improvement in cases of chronic sinusitis, I have felt that often the good effect is due to mild stimulation

of the mucous membrane not only of the maxillary sinus but of the superimposed ethmoid cells. The diagnosis may be chronic ethmoiditis only, with no clinical or roentgenologic evidence of antral disease; yet the patient will report a copious discharge, usually postnasal, of mucopurulent secretion for some time after the injection, with much subjective relief. A second possibility is that the iodine, which in vitro seems to be in close chemical combination, is really available to the tissues and helps to liquefy the mucus and stimulate its production (use of iodides for bronchitis and asthma) or has some beneficial effect on disturbances of the thyroid, which are often present with waterlogged nasal membranes.

This treatment is no panacea. A great many patients will report no unusual improvement after its use. On the other hand, there are persons who, having been subjected to other methods of treatment, will insist on further injection of the oil as being much the most helpful therapy that has been employed.

CONCLUSIONS

The use in the large sinuses of 27 per cent iodized and 7.5 per cent chlorinated peanut oil in 50 per cent combination with oil of sesame has proved of value in the treatment of low grade rhinosinusitis.

Many of the cases in which this therapy is of value seem to fall into the group in which chronic infection may be encouraged by defects in the local vasomotor apparatus (subclinical allergic states; glandular dyscrasia).

While this treatment does not replace surgical correction, it is often helpful in bringing about a condition of comparative comfort.

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