ON THE LOCAL USE OF FORMALIN IN THE TREATMENT
OF NASAL POLYPI BEFORE AND AFTER OPERATION ON
THE SAME BY THE USUAL METHODS.

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I do not intend to enter into any discussion on the causes and treatment of nasal polypi, but wish simply to record my experience with the local application of formalin in these cases.

Thanks to the good work recently done by Zuckerkandl, Hajek, Grunbaum, Lack, and others, we know that nasal polypi are the result of chronic inflammation of the mucous membrane, due to local irritation by pus, etc., or to focal suppuration, and that generally the underlying periosteum, often also the bone, is diseased. In many cases one or more of the accessory cavities, especially the ethmoidal cells, are affected. This partly explains the great tendency of the polypi to recur and the frequent necessity for surgical interference.

All specialists, but I am sorry to say not all surgeons, have long since discarded the barbarous method of removing polypi by introducing forceps and pulling out as much of the interior of the nares as they can catch hold of. (They have a special preference for the unoffending lower turbinates.) The cold or hot snare is now invariably used. I remove as much of the polypi or diseased mucous membrane as I can with the cold snare, and then apply formalin on a probe with cotton-wool to the roots of the polypi. I try not to cut through the pedunculated polypi, but to pull them out by the roots, and thus I often succeed in removing the whole of the polypus, and in many cases also part of the underlying diseased bone. Before using the formalin I again apply a powder consisting of equal parts of cocaine, eucaine, and desiccated suprarenal extract to the parts with a probe and cotton-wool.

After a few days a formalin spray (1 in 500 up to 1 in 100) is ordered to be used *ter die* for a week or two, and then less frequently. The patients are all asked to return again in one month. If the spray is painful (and some patients are extremely sensitive to formalin), I order a paroleine spray to be used before the application. The formalin not only acts as a powerful disinfectant, but also causes contraction and hardening of the diseased tissues. I also order insufflations of tannoform, aristol, and boric acid. As long as there is much discharge an alkaline spray should be used. Often the middle turbinate is extensively

diseased. In these cases I remove the anterior part of the bone by forceps or snare. Messrs. Mayer and Meltzer have recently modified Grunwald's forceps and made them larger and stronger.

Before operation the nares should be most carefully examined, the swelling of the mucous membrane removed by the local application of equal parts of powdered cocaine, eucaine, and desiccated suprarenal extract, and all the cavities and recesses, as far as possible, examined with a probe. Thus, and only thus, can an accurate diagnosis be made and scientific treatment adopted.

I use this method in all cases of polypi. In many surgical interference becomes necessary, but I do not think we should have recourse to this before we have thoroughly tried local medical treatment for some weeks or months, and removed the polypi numerous times, and used formalin during the intervals.

It is often impossible to tell how many of the accessory cavities are affected. In most cases the frontal and ethmoidal cells are diseased. Lack strongly advises thoroughly scraping these cells under a general anæsthetic, and has published numerous successful cases. I have followed his suggestion, but my cases have not all done well. Nor, I may say, have all other surgeons had good results. I have seen numerous cases reported as cured in which recurrence has taken place. The operation is also not devoid of danger, and many fatal cases have occurred, although they have not been recorded. If local medical treatment fails I remove under a local anæsthetic part of the middle and upper turbinates with forceps, sharp spoon, or snare at several sittings. If eucaine and suprarenal extract are used there is not much pain or hæmorrhage. In the interval between the operations formalin and tanniform are applied locally.

Nearly all the numerous cases in which I have operated during the last three to four years have, so far as can be judged in so short a time, been very successful. I see the patients every month, and if there is the slightest recurrence of polypi I remove these with the snare and apply formalin. In some cases numerous operations are necessary, and the polypi seem to recur in a less degree each time. In Yorkshire nasal polypi (as all diseases of the nose) are extremely common—much more so than in the South—so that we have ample opportunity of seeing and treating a large number of cases.

Dr. HERBERT TILLEY thought Dr. Bronner was making too sweeping a statement in saying that the majority of nasal polypi were caused by accessory sinus disease. For practical purposes

he always divided polypi into those which were and those which were not associated with suppuration. In the latter class of case accessory sinus suppuration was always present, and was probably the cause of the polypi.

Dr. CHILDE advocated the removal of polypi with forceps, according to the method of Sir Mitchell Banks. He thought it was not possible to be too thorough.

The PRESIDENT thought that formalin probably acted much in the same way as the galvano-cautery. The latter produced a sort of local boiling of the parts, and was an excellent antiseptic.

Dr. JOHNSON HORNE inquired whether the possible danger of injuring the olfactory structure by the use of formalin in the treatment of nasal polypi was outweighed by the good results obtainable, also whether it was advisable to entrust to patients the application of formalin in efficient strengths by means of sprays.

Dr. BRONNER, in reply, explained that he applied formalin on a brush of absorbent cotton, strictly limiting its action to the diseased parts, and protecting the neighbouring tissues with paroline or some similar preparation. It was applied, in fact, exactly in the same way as pure carbolic acid or any other strong caustic.

DIFFICULTIES AND INSUFFICIENCY OF THE STENOSAL THEORY OF ADENOID DEAFNESS.

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At the Cheltenham meeting of this Section I reviewed the commonly accepted theory of adenoid deafness, and arrived at the following conclusions: First, that the theory was not what it claimed to be—complete—but covered only a part of the ground; and, secondly, that, accepting it as complete, there was a difficulty not only in estimating the value of the different contributory factors, but even in naming them.

A consideration of the stenosal theory shows that these conclusions (if not stronger ones) may be affirmed of it; to such I now ask your attention. In a marked case of adenoids the open mouth is a prominent feature, and for a considerable period it was believed that respiration was in large measure buccal during both day and night. It is now, however, maintained that inspiration during sleep is in nearly every instance almost wholly nasal—even