CLINICAL NOTE

ON AURAL POLYPUS

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ALTHOUGH text-books imply that in certain cases conservative measures can deal satisfactorily with the aural polyp, nevertheless the belief is widely held that in the majority of cases radical surgery alone will suffice.

This belief is unduly pessimistic. Too little attention has been paid to the pathogenesis of the condition and I hope that with further study we shall be able to differentiate between the common benign type which is readily curable by conservative measures, and the rarer type in which radical surgery is indicated.

To begin with I should like to describe :—

THE ACUTE AURAL POLYP

This arises as a direct sequel of acute otitis media—probably towards the end of the second month of otorrhœa. Although I had casually noted its occurrence before, my attention was really focused on it by the following case :—

CASE I. Mrs. Mary E. came to my O.P.'s in *February* 1937, having had otorrhœa since Christmas 1936. The landmarks of the drum were quite unrecognizable, but as there were no local or general signs of mastoiditis, I merely ordered routine treatment. She was observed closely for over a month until it became clear that a mass of granulations had formed in the depths of the meatus. Her general condition was excellent, but in view of the persistence of the local condition I opened the mastoid on March 19th.

Beyond a little soft granulation tissue in the aditus there was no evidence of mischief whatsoever. Posterior drainage was maintained for four days and then the wound closed rapidly. Three weeks after the operation the aural polyp was *in statu quo* !

Two important questions arise out of this case :—

(A) Whence did the polyp arise ?

(B) What was the correct line of treatment ?

With regard to (A), my own opinion is that it arises as a mass of granulation tissue from the tympanic membrane and that its sheer bulk suffices to maintain discharge and to delay re-epithelialization indefinitely, just as can occur with exuberant granulation tissue in

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any wound. Left untreated, it eventually produces the condition I describe below as the " chronic benign polyp ".

As to treatment, I believe that mastoidotomy is unnecessary and, indeed, useless. It certainly seemed so in Case I. By analogy, one would say that all that is required is to burn down the granulation tissue with some kind of caustic. In this special case, however, the position is complicated by the fact that if there *should* be a focus of infection in the middle ear or neighbourhood, the treatment might dam up all discharge and precipitate mastoiditis.

In the case of the acute polyp, however, it should not be difficult to decide when the florid stage has subsided. In Case I, I finally destroyed the polyp by bi-polar zinc electrolysis and the ear is now dry.

Profiting by this experience, I dealt with a subsequent case immediately with zinc ionization.

CASE II. R. S., male, aet 10, was brought to me on *May 3rd*, 1937, because he was very deaf. I found the right ear full of " keratosis obturans ". The left ear had been discharging for eight weeks and there was a soft hæmorrhagic mass deep in the meatus. Two ionizations destroyed the mass, and the ear is now dry.

What happens to these cases if not treated adequately? I believe that many will go on to produce the

CHRONIC BENIGN POLYP

One visualizes fibrosis occurring and, at the same time, the tympanic membrane is gradually eroded until finally a pedicle attachment is formed to the tympanic ring. This destruction of the drum is, however, by no means the rule. Even in cases of many years' standing one may find a quite small perforation (see Case IV). I call this type benign because of the surprising ease with which cases of even twenty years' standing may be cured. By cured I mean that the ear becomes absolutely dry, usually with a definite improvement in the hearing.

In view of the excellent functional results which are obtainable, I would lay it down that radical surgery should never be contemplated until a thorough trial has been given to conservative measures.

The following cases from my private records, treated during the past eighteen months, will give some indication of the results obtainable and also demonstrate that the condition is by no means rare.

CASE III. Miss Mary B. Left aural polyp associated with otorrhœa of $2\frac{1}{2}$ years' standing. First seen 3.6.36. Polyp amputated. Ear subsequently ionized. On 12.8.36 ear was dry.

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CASE IV. A. D., aet 23. Otorrhœa fifteen years after scarlatina. Right ear full of polyps. Treatment took from 16.1.37 till 12.2.37, but resulted in a dry ear with marked functional improvement. In this case there was a surprisingly small perforation.

CASE V. Mr. D. H. Left aural polyp, over thirty years' standing. This was the biggest I have ever seen and had caused much absorption of the osseous meatus. The ear was stone deaf. Treatment began on 10.2.37 with amputation and by 10.5.37 the ear was dry. Most of the tympanic membrane had disappeared, but there was quite useful hearing in an ear which had been stone deaf for twenty years.

CASE VI. Ambrose P. Aural polyp many years. First seen on 7.4.37. Ear dry on 24.5.37.

CASE VII. John D. Right otorrhœa over twenty-five years. Aural polyp removed 8.9.36. Ear dry on 28.11.36. Considerable restoration of hearing.

With regard to treatment, one begins with amputating the main mass. It will not come amiss to reiterate the standard warning against avulsing. One mops out all discharge from the depths of the meatus and applies a cocaine in adrenalin solution to the base of the polyp by means of very fine wire wool carriers. These are made by twisting a double strand of wire in a lathe. I thought they were original, but found that Jankauer described them at least twenty years ago. A general anæsthetic is much less satisfactory for this little operation.

Many special aural snares are described, which are finicky and unhandy. There is nothing to beat a full-size nasal snare, so long as the barrel is slender and one uses soft brass wire.

The real treatment now begins with the destruction of the pedicle. Chromic acid and other chemical caustics are, in my opinion, much less efficient and more dangerous than electrical methods. I use zinc electrolysis in one of three ways.

1. Bipolar zinc electrolysis. Two fine zinc needles are plunged into the mass, one being connected to the positive and the other to the negative electrode.

2. Unipolar zinc electrolysis. A single zinc needle on the positive lead is plunged into the polyp whilst the negative lead goes to an indifferent electrode on the arm or body.

3. Ordinary zinc ionization in which the meatus is filled with a solution of zinc sulphate and an electrode dipped into the solution. Here again an indifferent negative electrode is placed on the arm. I have my own special aural electrode for the purpose.

During this destructive process one occasionally finds quite a large slough forming, and I have the impression that the scavenging

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of this mass is definitely accelerated by " permyase jelly ", which is said to contain extract of maggots.

It only remains to note the existence of polyps which are not amenable to conservative treatment. Probably these spring from sequestra in the attic and its neighbourhood. It might be justifiable to speak of them as secondary polyps, as opposed to the previous types which I regard as primary. An interesting distinction has been drawn between those which arise above a certain " danger line " and those below it. This line is situated one-sixth of an inch below the oval window. Cases arising above this line are due to a focus in the antrum or labyrinth capsule and need radical surgery. Cases arising below are due to re-infection from the Eustachian tube and are treated by chemical caustics. This distinction accords quite closely with my own of secondary and primary types. I should note, however,

1. That even "superior" polyps can be given the benefit of the doubt provided one uses electrolysis and not chemical caustics.

2. That " inferior " polyps are not *necessarily* absolutely safe. It is easy to imagine one springing from a sequestrum near the round window or promontory. Nor need one invoke re-infection from the Eustachian tube to explain their persistence.

3. It is far from easy to locate the pedicle until one has practically ablated the mass.

Because of these points, I regard the distinction as of some value in prognosis but not in treatment. Indeed, I am beginning to think that of all forms of chronic otorrhœa, that associated with the aural polyp offers the best prospect of a dramatic cure without recourse to surgery.

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