A case is reported in the *Annales des Maladies de l'Oreille, du Larynx, du Nez, et du Pharynx*, January, 1894, in which a bony obstruction caused deafness; on removal of the obstruction the deafness was much improved. There has been a considerable number of similar cases reported since, and I have no doubt that it will come to be generally recognised that certain cases of nasal obstruction lead to deafness directly, and the reason for the deafness will be pointed out.

THE GALVANO-CAUTERY IN THE TREATMENT OF INTRA-LARYNGEAL GROWTHS.

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THE final removal of the stump of an intra-laryngeal growth is often as difficult as (to the expert) that of the main mass of it is easy. Oliver Wendell Holmes's happy analogy between the elaboration of the last few lines of a poem and the extraction of the last drops of oil out of a bottle is fairly applicable to the case in point. Such at least has been the experience of the writer.

Many valuable forms of intra-laryngeal forceps are at the disposal of the operator, and I believe that the form devised by myself for cutting growths off the edge of the vocal cord, the description of which appeared in the *Lancet* of June 3, 1893, has been in very general use for the intended purpose within the limits which the slightest consideration would impose. For growths on the upper surface of the cord it is of course inapplicable, and for these the form devised by the late McNeill Whistler is the most efficacious for those who have been accustomed to Mackenzie's instruments. These are available also for many growths in the anterior commissure, though here the snare (so strongly advocated by the late Lennox Browne) has its seat of election. Forceps with the tips bent forwards according to the designs of Lambert Lack and Fitzgerald Powell will often clear the anterior commissure when other instruments fail. The extirpation of the residual stump from which regrowth is very apt to take place often baffles instrumental interference, as, for instance, when the growth is on the edge of the vocal cord, but so near the anterior commissure that there is no room in front of it for the anterior blade of clean-cutting forceps. Such was the case in two instances lately under

my care, and in them I found in the galvano-cautery the means of effecting the final clearance.

CASE 1.—The patient was a comparatively young vocalist and actress whom I brought before the British Laryngological Association in July, 1894, having removed a small fibroma from the right vocal cord at the junction of the anterior and middle thirds. The removal by means of my own forceps was so complete that the patient was enabled to return to her avocation and continued to act and occasionally to sing up till November, 1902, when she came again to me on account of a return of her hoarseness. I found a fibroma on the same spot, but more sessile than the previous one, and I was able to effect only a partial removal by means of my forceps. I then lightly touched the spot with a fine galvano-cautery point on three occasions, with the result that complete disappearance of the growth and perfect restoration of voice ensued. This has continued to the present day.

CASE 2.—The patient was a woman aged fifty-one years, who had been practically voiceless for three years. I found a sessile fibroma occupying nearly the whole of the anterior third of the vibratory portion of the left vocal cord, and protruding to a considerable extent into the glottic slit. After removal of the main mass by means of my forceps, I reduced the growth to dimensions somewhat less than indicated in the figure.

The following is Dr. V. H. Wyatt Wingrave's report as to the microscopical structure :

"The growth consisted of a medullary part composed of fibrous tissue containing small fusiform nuclei with a few large oval nucleated cells (epithelioid), and also some large granular leucocytes. The matrix was homogeneous. The vessels (arteries) showed considerable thickening, and were numerous. The surface epithelium was very irregular in arrangement, being corrugated and in parts dipping into the subjacent tissues, but was not fimbriated. It was typical stratified squamous on the surface, the deepest layer being columnar. There was no suggestion of active mitotic nuclear change and no nest or pearl formation. In parts there was some vacuolation. Its nature may be considered as a fibro-papilloma."

The little remaining stump was sufficient to prevent the emission of conversational voice, and the application of various

astringents seemed to irritate the larynx without producing any diminution in the nodules. In spite of the difficulties in this particular case, to which I shall further allude, I succeeded in touching the stump with the galvano-cautery, and after five applications effected its complete removal, the voice becoming clear and strong, as it has remained till now (three months later), when the left vocal cord is perfectly normal. I showed the case to the Laryngological Society of London in January of the present year.

The difficulties in this latter case were manifold. The patient was a somewhat rotund personage, with extremely protuberant "bust" and a short neck, so that there was little room for the hand of the assistant holding out the tongue and of the one holding the Mount-Bleyer or Escat tongue-depressor, which the pendulousness of the epiglottis rendered necessary. In addition, the tongue was large in proportion to the size of the buccal cavity, even when the artificial teeth were removed. It was difficult even to introduce the laryngeal mirror. Finally, the epiglottis was pronouncedly "pendulous," and only very fleeting views of the seat of the disease were obtainable. It must be stated to the patient's credit that her good-will and patience were most exemplary. The introduction of my forceps required the exercise of some force, and the manipulation inside the larynx was necessarily carried out *à l'aveugle* in a way which would have been scarcely possible with a less guarded instrument. The use of the galvano-cautery had to be practised on totally different lines. For this the most complete illumination was necessary, so that the application should be made under the guidance of the eye. For this purpose I made use in the first instance of Mount-Bleyer's "epiglottis-lifter," the tip being placed in the vallecula in front of the epiglottis, the pressure therein causing this to rise up so that the anterior part of the glottis could be plainly seen. I found, however, that Escat's instrument caused less discomfort, and in this particular case permitted of as good a view of the larynx being obtained. I was thus enabled, after cocainisation, to overcome the difficulties I have mentioned and to effect the application of the galvano-cautery.

The cautery itself must answer certain requirements. It must be of the curve and length appropriate for the particular spot in the particular case. For this purpose it should be introduced "cold" and modified in shape and length (of vertical portion) until it can be made to touch the exact spot with as little difficulty as possible.

Again, it should be instantly responsive to the make and break

of the current. I use Schech's handle, and frequently renew the points, which Schall carefully files down for me at the extremity, till the incandescence and extinction are practically instantaneous. The extent to which the cautery has to be bent down is sometimes more considerable than would be anticipated. In Case 1 the bent-down portion was fully four inches in length, and I have at present under my care a patient on whose left vocal cord was a large sessile papilloma, which I was unable to reach by means of my longest laryngeal forceps, but which I have succeeded in reducing almost to a vanishing point by the use of the galvano-cautery bent down to as great a length. For such a small stump as I have described the lightest touch is all that is desirable, and ought, indeed, to be much less than at the time appears sufficient. In addition to the destruction of a portion by the actual burning away of substance, the subjacent part of the growth undergoes a certain amount of shrinkage. Complete burning away of the growth would, therefore, be attended by a risk of undesirable cicatrization of the normal underlying structures.

I do not wish it to be inferred that in these manipulations I have never touched the normal neighbouring parts of the larynx. In Case 1 I certainly did avoid doing so; in Case 2 I more than once cauterised the superjacent portion of the ventricular band and also the opposite vocal cord. In the third case to which I have made reference the patient was exceptionally restless, besides being absolutely intolerant of the "epiglottis-lifter," and I slightly cauterised the laryngeal surface of the epiglottis. As a rule I was able to confine the momentary cauterisation to the desired spot, and in no instance did the involvement of the adjacent parts mentioned occasion anything approaching obstructive œdema, or, indeed, any symptom beyond a slight increase of hoarseness, which rapidly subsided.

With the precautions I have mentioned I believe that we have in the galvano-cautery an instrument which might be more frequently employed for the purpose under consideration than appears to be usual.

A SHORT NOTE UPON A PRELIMINARY STEP IN THE OPERATIVE TREATMENT OF CEREBELLAR ABSCESS.

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IN the operative treatment of abscess of the cerebellum, a practical difficulty which has to be faced is the possibility of