JOURNAL OF LARYNGOLOGY, RHINOLOGY, AND OTOTOLOGY.

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HYPERTROPHY OF THE LINGUAL TONSIL, AND ITS REMOVAL BY THE USE OF THE TONSILLOTOME.

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THE abnormality which is generally spoken of as hypertrophy of the lingual tonsil should more correctly be designated hypertrophy of the lingual tonsils. When the adenoid tissue at the tongue base is hypertrophied, it will be found to consist of two masses, separated by a central division ; so that each half of the mass is a separate and distinct structure, and can be removed without interference with its fellow. In this regard the rule of the development of the adenoid structure in the throat and nasopharynx is followed. Hypertrophy of the lingual tonsils occurs later in life than that of the pharyngeal or faucial tonsils. The youngest case of lingual tonsil hypertrophy treated by the writer was that of a girl aged fourteen years. Here both lobes were very successfully removed by the tonsillotome in two sittings. The hypertrophy is more frequent in the female than in the male sex, in the proportion of rather more than two to one. It is a true adenoid overgrowth, and not a mass of dilated vessels, as it has sometimes been described.

This condition has an important bearing on the methods of treatment. The idea that the hypertrophy was a vascular overgrowth has, no doubt, hitherto deterred surgeons from attempting its removal by a cutting operation. Although its true nature has before now frequently been described, the writer thinks it well to emphasize this point.

The following histological description of lingual tonsils removed by him has been kindly supplied by Dr. Sydney Jamieson, Hon. Pathologist to the Sydney Hospital :—

The tissue had already been in spirit some considerable time when

received by me, and so its naked-eye appearances had probably undergone a certain amount of change by shrinkage. In shape and size they resembled almonds, and in surface structure they presented an appearance exactly similar to that seen in the case of the faucial tonsil. On the surface there were numerous pits or invaginations of the outer tunic. On microscopic examination the mass was found to consist essentially of three structures :—

1. An outer lining of epithelium, which here and there was invaginated so as to form crypts similar to those found in the faucial tonsil.
2. Large masses of lymphoid tissue variously arranged.
3. A delicate fibrous reticulum, in the meshes of which the lymphoid cells were entangled and through which blood vessels and lymphatic spaces were interspersed.

I shall for convenience describe each of these parts separately.

(1) THE EPITHELIAL ELEMENTS.

Covering the whole of the outer surface of the organ was a layer of epithelium of fairly uniform thickness. The cells of this coating were disposed in three distinct layers.

(a) A layer of epithelial scales flattened and lying parallel to the free surface of the organ. The nuclei of this layer were almost rod-like in appearance, and the protoplasm of the cells was stained (in picro-carminic stained sections) of a light yellow colour.

(b) A layer of oval or rounded cells with prickle-shaped processes running between them. The nuclei of these cells were more or less rounded, and their chromatin fibres stained more deeply than those of the previous layer. Between these cells, here and there, were some multinucleated leucocytes, some of which contained a pigment resembling in appearance hæmatoidin.

(c) A layer of epithelial cells elongated in a direction at right angles to the free surface of the organ. The nuclei of these cells stained very deeply. This layer consisted of a single row only. This epithelial investment (consisting of the three layers above described) was found to be invaginated in places in the form of crypts. These crypts in some places almost penetrated the whole thickness of the organ. They were also found to branch at times in a dichotomous manner. The characters of the cells lining the crypts were exactly similar to those lining the free surface.

(2) THE LYMPHOID ELEMENTS.

The bulk of the mass was made up of this variety of tissue. In parts it was loosely scattered throughout the delicate strands of the fibrous reticulum. In other parts it was massed together in the form of ovoid or rounded clumps, resembling in appearance the structures in the spleen known as malphigian corpuscles. In these parts the cells were so closely packed together that the fibrous framework could not be discerned. Around the margins of these oval clumps there was a narrow space, having an appearance resembling that found at the periphery of a lymphatic gland. The cells of the lymphoid tissue were, for the most part, possessed of a single deeply-stained nucleus, but in some places, especially near the periphery of the ovoid clumps they were multinu-

cleated. These cells seemed to be almost entirely made up of nucleus, the amount of protoplasm being very scanty, and forming merely a thin film around the margin of the cells. Scattered about among the cells lying in the fibrous reticulum were seen a few delicately formed blood capillaries.

(3) THE SUPPORTING FRAMEWORK.

This consisted in the main of very delicate fibrils of connective tissue with fixed connective tissue corpuscles lying upon them. In parts the framework was almost completely obscured by the tightly packed lymphoid cells contained within them. Immediately beneath the epithelial layer running along the whole length of the organ, the fibrous network was of a much coarser structure, and in this part numerous blood vessels, crowded with red blood corpuscles, were seen, and between them large spaces containing multinucleated leucocytes, many of which were heavily charged with a golden brown pigment.

This description is not intended as an exposition of the pathology of hypertrophy of the lingual tonsil, but is merely on account of the changes found in the single specimen I have had the opportunity of examining. I hope, however, at a later date, to have the opportunity of still further investigating this interesting subject, and to report more fully thereon.

The most prominent symptom complained of is the sense of a foreign body in the throat: "Something that will not come up or go down." This leads to frequent swallowing movements. Frequently there is an irritating, hacking cough. Vocalists suffer from voice fatigue and breakdown. Several of the patients treated by the writer were singers, in whom no other cause could be found for their defect, the larynx being perfectly normal—yet there was a huskiness, a want of clearness of tone, and a constant vocal fatigue.

TREATMENT.

The methods of treatment hitherto in use have been painting with solutions of iodine, the application of the galvano-cautery, the use of the cold or the galvano-cautery snare, and the application of chemical caustics. Painting, to have any effect, must be continued for a long time, and even then has little influence in reducing a well-marked hypertrophy. The galvano-cautery, while effective, requires repeated sittings, each of which is followed for days by a very sore throat, and it may, as has been pointed out by Dr. Felix Semon,¹ even give rise to dangerous inflammatory reaction. The cold snare is unsuitable, as the lingual tonsils are so dense and tough that they cannot be removed by this means without great difficulty. The galvano-cautery snare is open to the same objections as the galvano-cautery knife. The use of chemical caustics need only be mentioned to be condemned, as it is impossible to limit their action to the desired region.

In October, 1892, the writer, for the first time, removed hypertrophied lingual tonsils with the tonsillotome. On this occasion the ordinary small Mackenzie's tonsillotome was used. Finding some difficulty in using a straight instrument in this region, the writer had a curved one

¹ "International Centralblatt für Laryngologie," etc., Oct., 1893, p. 223.

constructed on his design by Mr. Hentsch, surgical instrument maker, Sydney. This instrument is made on the lines of Mackenzie's tonsillotome, but the shield is curved on the arc of a circle; and to enable the blade to follow this curve it is also slightly curved short, antero-posteriorly, and connected with the driving shaft by a neck of spring steel. This instrument is much easier to use than the straight one. It is a first attempt to overcome a difficulty, and may be improved upon. Already Mr. Lennox Browne has proposed a modification.

CASES SUITABLE FOR TONSILLOTOMY.

Since 1892 the writer has treated, in his private practice, one hundred and eleven cases of enlargement of the lingual tonsils. Of these thirty-four were subjected to tonsillotomy, twenty-three had applications of the galvano-cautery, and fifty-four were treated by palliative measures—mainly by applications of Lugol's solution. The hospital statistics are not included, as it is only lately that suitable instruments for tonsillotomy were provided.

Many of the cases amongst those treated by palliative measures were suitable for tonsillotomy, but for various reasons the patients either would not, or could not, at the time, submit to radical treatment. The galvano-cautery was only used for scattered nodular enlargements on the tongue base, and has been used with decreasing frequency of late years. Tonsillotomy will be found to be the best means of dealing with all large and distinct hypertrophies which project in a bilobate fashion from the tongue base. The tonsillotome can also be applied in some cases for the removal of less marked nodular rough projections. For diffuse thickening, accompanied by catarrh, palliative treatment is suitable. In the experience of the writer, iodine solutions have little or no effect in removing marked hypertrophies. In several hospital cases, after months of local paintings, the growth, in the end, has had to be removed with the tonsillotome.

The operation is done after the local application of cocaine, under the guidance of the laryngeal mirror. It is best to remove only one lobe at a sitting, and when this side has healed the other can be dealt with. Thus a clearer view is got for the removal of the second lobe, unobscured by blood, and should any after-bleeding take place it will be easier to control, if from only one side.

In the experience of the writer, lingual tonsils removed by the tonsillotome bleed less freely than the faucial tonsils. Of the thirty-four cases treated in this manner, in all sixty-eight tonsils removed, after-bleeding occurred only once, and it was easily stopped by local astringents. The patient was afterwards proved to be liable to bleedings from small cause, such as extraction of teeth. Should persistent bleeding take place, it would be easier to control than a similar accident in the removal of the faucial tonsils, as the corresponding lingual artery could be tied. The advantages of tonsillotomy are that it more rapidly attains the end aimed at than any other means known to us; it is followed by less after-pain than other radical methods; it is free from the risk of after-inflammation; and it leaves a smooth surface, where the diseased tissues have been

completely removed. The one hundred and eleven cases are made up as follows :—Males thirty-four, females seventy-seven. Between the age of fourteen and twenty years, ten cases ; twenty to thirty years, sixty-five cases ; thirty to forty years, twenty-eight cases ; forty to fifty years, four cases ; fifty to sixty years, two cases ; sixty to sixty-four years, two cases. One case of a large growth removed from one side of the tongue base turned out to be a sarcoma ; two years later there was extensive infiltration of the cervical glands. In one case of inflamed lingual tonsil an abscess was evacuated by incision. A remarkably sudden recovery of the singing voice occurred in one case. The lady had lost her singing voice for some years ; on the day following the tonsillotomy she found that she could sing. When seen lately, two years after the operation, she says the improvement continues.

In one case, where very large lingual tonsils were excised, the writer was disappointed to find the very disagreeable subjective sensations in the throat persisting : here the troublesome sensations were probably associated with the approach of the menopause.

REMARKS ON A CASE OF TABES DORSALIS, WITH LARYNGEAL CRISES AND LARYNGEAL VERTIGO.

By FRED. TRESILIAN, M.D., M.R.C.P. Edin.

THE following case is a good instance of the above, and one in which, being a tolerably early symptom, the laryngeal disturbance was the one for which the patient came to seek relief.

G. C., aged thirty, came first in September, 1895, complaining of attacks of choking cough for the last eight months, which came on paroxysmally and were very severe. The attacks were attended with giddiness, and in one or two of the later ones he thinks he must have fainted or lost consciousness. His description of an "attack" was, that it was ushered in by a tickling feeling in the throat, then one or two violent coughs, with whoops, which made him so giddy that he had to hold on to the nearest article for support, after which he felt choking, and could not get his breath in. Sometimes, out of doors, he had to hold on to the nearest railing until the attack passed over ; and one day lately he had an attack whilst knocking at a door, obliging him to hold on to the knocker with both hands, when, unfortunately, the door was opened and he staggered and fell into the hall. He is sure he distinctly lost consciousness for a few moments. The attacks last for one or two minutes, and have been coming on more frequently of late. His own impression was that the disease was whooping cough. He also stated that he suffered very much from weakness and a tired feeling in his legs, and that when walking, either leg would suddenly give way, and almost throw him down. In addition, he had more difficulty in walking in the dusk or in darkness. He also had severe pains in the legs, which came on suddenly, lasted for a few minutes, and then passed away. He de-