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HYPERTROPHY OF THE PHARYNGEAL TONSIL.

A CLINICAL LECTURE

*Delivered at the Rush Medical College,
October 30, 1890.*

BY



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PROFESSOR OF LARYNGOLOGY IN THE RUSH MEDICAL COLLEGE, AND OF
DISEASES OF THE THROAT AND CHEST IN THE WOMAN'S MEDICAL
COLLEGE OF CHICAGO, ETC.



FROM
THE MEDICAL NEWS,
March 21, 1891.

[Reprinted from THE MEDICAL NEWS, March 21, 1891.]

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Synonymes: Hypertrophy of Luschka's tonsil, adenoid growths in the vault of the pharynx.

This affection consists of an abnormal enlargement of the glandular tissue normally found in the vault of the pharynx. It is characterized by obstruction to nasal respiration, alterations in the voice, and in many cases partial deafness, with catarrhal symptoms and more or less deterioration of the general health.

It is most frequently observed in damp climates and in young children, but it is sometimes met with in young adults.

Anatomical and pathological characteristics.—The changes in the glandular tissue closely resemble those which are frequently seen in the faucial tonsil. The structure is of a grayish or pinkish hue, though sometimes of a bright-red color. The surface is never granular, but often has a lobulated appearance. Enlarged bloodvessels are not present upon the surface, as in many other abnormal growths. The growth may be either soft and friable or exceedingly firm; it consists of lymphoid tissue and an overgrowth of connective tis-



sue similar to that found in hypertrophy of the faucial tonsil. The effect upon the general health depends upon the size and shape of the growth, and the amount of obstruction to respiration.

Etiology.—Heredity undoubtedly bears some part in the etiology of this affection, yet the disease has been understood for so short a time that it is impossible to determine whether the parents of most patients have suffered from a similar complaint. Frequently, however, several children in the same family will be found so affected. It appears to be due in the majority of cases to the same causes as enlargement of the faucial tonsils. The exanthematous diseases and diphtheria occupy a prominent place in its etiology. Frequent colds, and the strumous and rheumatic diatheses, may also be reckoned among the causes. McDonald¹ attributes the majority of cases to obstruction of the nasal passages and consequent rarefaction of the air in the naso-pharynx during inspiration. This, however, would seem to be opposed by the fact that nearly all cases of cleft palate are also affected by this disease. It certainly does not correspond with my own observation, although it is true that in a considerable number of cases anterior nasal stenosis does exist.

Symptomatology.—There is usually a history of mouth-breathing, with all its attendant symptoms, extending over several months or even years, during which time the parents have been continually disturbed at night by the loud snoring and irregular and noisy breathing of the patient. The child is usually restless and often wakes from troubled dreams during the early part of the night, but toward morning sinks into a heavy sleep from which it awakens with headache or a feeling of malaise that does not wear off for several hours. Nasal or post-nasal catarrh and partial deafness are not infrequently

¹ Diseases of the Nose, 1890, p. 235.

present, and it is common to find that these diseases have come on after diphtheria or one of the exanthematous diseases which has caused hypertrophy of the gland. The defective hearing appears to result from obstruction of the Eustachian tube, and in some cases gradual extension of the inflammation to the middle ear. The deafness is sometimes outgrown as the glands atrophy during advancing life, and it may often be cured by removal of the abnormal tissue, but if allowed to persist for a long time is likely to become permanent. The voice is thick and indistinct in proportion to the interference with nasal resonance, and it becomes impossible for the patient to pronounce the letters *m* or *n*, so that *b* is used instead of *m*, and *d* instead of *n*. In such cases the voice sounds as though the patient had a cold in the head. Shortness of breath upon exertion is often noticed, and in children who are trained to keep the mouth closed, catching or sighing respiration at intervals in order to compensate for the constant deficiency of air is frequently observed. A barking, reflex cough is sometimes present. Frequently a peculiarly disagreeable nasal secretion becomes a fixed condition, and it is often necessary for these patients to clear out the nasopharynx by the act of hawking. Occasionally, though not in the majority of cases, a rhinorrhœa is present. The nostrils and anterior nasal cavities are found abnormally small in some cases, and in the majority the faucial tonsils are also enlarged. The uvula, pillars of the fauces, and edge of the palate are generally slightly congested, and frothy or muco-purulent secretions are found upon the pharyngeal walls, dropping from the naso-pharynx. In many cases the pharynx is relaxed and the follicles swollen, as in advanced cases of follicular pharyngitis. The follicles, which are usually paler than the surrounding mucous membrane, generally increase in size toward the upper part of the pharynx until

just above the edge of the palate they become continuous with the glandular enlargement. With the rhinoscope we should especially examine the posterior pharyngeal wall, the vault of the pharynx, and the choanæ, irregularity of the upper outlines of which is among the most easily recognized signs of the disease. Upon the pharynx the growth has a clearly-defined cushion-like appearance, and is more or less nodular, but in rare instances it hangs from the vault of the pharynx in soft pendulous masses resembling condylomatous warts. In color it is usually pale pink or grayish, but it may have any shade from gray to a deep red. Its surface is never traversed by bloodvessels. In adults in whom atrophy has taken place the remains of the gland may sometimes be seen as small excrescences.

Palpation is often desirable in adults to determine the consistence of the growth, and it is nearly always essential in children, because of the difficulty of rhinoscopic examination. In performing it a gag should be placed between the teeth, and the forefinger of the right hand carried back to the pharyngeal wall and then turned upward behind the palate, where it will at once detect the abnormal growth. Those unfamiliar with the normal feeling of the part should at first search for the septum and move the tip of the finger backward and upward from both sides. Slight bleeding usually follows, though the examination is not especially painful to the patient.

Chronic pharyngitis, rhinitis, or laryngitis will be found in some cases, and occasionally deformity of the thorax will have resulted in the pyriform chest or pigeon-breast.

Diagnosis.—The affection is to be distinguished from nasal mucous polypi, and from fibroid tumors. Mucous polypi seldom occur at so early an age as does hypertrophy of the pharyngeal tonsil, are of a lighter color, semi-translucent, and usually have bloodvessels coursing across their surface. They almost universally grow

from the nasal cavities instead of the naso-pharynx, and may be readily detected by anterior rhinoscopy.

Fibroid tumors are much harder than the hypertrophied glandular tissue we are now considering, are frequently attended by severe epistaxis, and upon being touched bleed easily and profusely. They are usually of a bright-red color, and bloodvessels may be seen upon their surface; when large the neighboring parts are distorted—none of these signs being observed in hypertrophy of the pharyngeal tonsil.

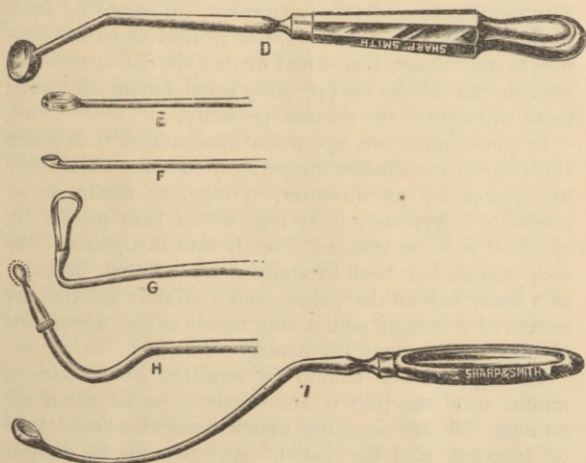
Prognosis.—If left to themselves it is probable that in seventy-five per cent. of the cases the gland would atrophy at about the twelfth or fourteenth year of the patient's age, but in the meantime irreparable mischief to the ear, the voice, or the general health may result. In nearly all of the remaining cases the gland would gradually diminish in size and finally disappear before middle life. When the affection has existed for a long time the hearing may be permanently impaired, but, usually, removal of the gland greatly benefits the patients. The natural voice is not always immediately restored, because a person having learned to talk with an obstruction in the naso-pharynx may require a considerable time to overcome the muscular habit, and in adults it may never be entirely remedied. The results of operative procedure, if not too long delayed, are most satisfactory.

Treatment.—Of internal remedies I have occasionally found the syrup of the iodide of iron of value, particularly in anæmic children. Other preparations of the iodides will doubtless prove beneficial in a few cases, and the chloride of calcium might cause some reduction of the gland in other instances; but, as a rule, medicinal treatment is of no value. Locally, astringents have been recommended, and seem to be useful in a few cases.

The most satisfactory results follow the removal of the gland by surgical measures. In a few cases in which the friends have objected to an operation, I have em-

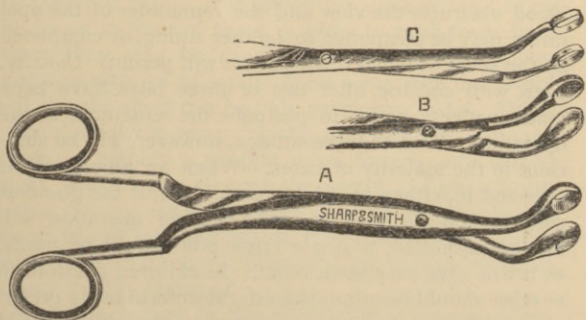
ployed chromic acid successfully. In using this caustic I fuse a few crystals on the end of a flat aluminum probe, and pass this through the nostril to the enlarged pharyngeal tonsil, where it is held for two or three seconds. The nares must be previously oiled to prevent the contact of any of the acid with the mucous membrane, and a small amount of cocaine may be applied to the nares and naso-pharynx in the form of either powder or spray. Applied in this way the acid usually causes a moderate amount of pain at the time and some soreness for several hours afterward, but the pain is not severe. The applications may be repeated at intervals of from three to five days, being made alternately through the opposite nostrils. The galvano-cautery may be used by means of a bent electrode passed up behind the alate, or a straight one through the naris, but the method is painful, tedious, and not very satisfactory. Scraping off the gland by means of a long finger-nail, or by various forms of curettes (Fig. 1) is in favor with some operators, and may in certain cases serve an excellent purpose; but usually the operation is less complete than when performed by Loewenberg's forceps, and, therefore, recurrence is more likely to take place. Écrasement by means of a bent snare has been practised satisfactorily in some cases in which the growth was very soft. Some operators prefer scissor- or punch-like forceps, but both are open to objections and do not seem to me to compare with the Loewenberg forceps (Fig. 2). The scissor-like instruments which I have seen may be satisfactory for cutting out a soft portion of the mass, but they are not well adapted to a complete extirpation of the growth, and other instruments will generally have to be used if the diseased mass is completely removed. The punch-like forceps are not open to this objection, but it is claimed that much more bleeding results from their use than from the instrument about to be described. By far the most satisfactory instrument for the operation

FIG. 1.



Naso-pharyngeal curettes.

FIG. 2.



Naso-pharyngeal forceps. *A.* John N. Mackenzie's modification of Loewenberg's forceps; *B.* Loewenberg's forceps; *C.* Cutting forceps.

is Loewenberg's forceps, or some of its modifications. The modification of this instrument, suggested by John N. Mackenzie, of Baltimore, has proved most satisfactory to me, though I have had made a similar instrument with shorter blades for operating upon young children; these two answer the purpose perfectly.

In performing this operation upon adults it is often sufficient to anæsthetize the parts by cocaine, which may be applied by an atomizer, syringe, or swab, or by means of a hypodermic syringe with a bent needle, by which it may be injected directly into the gland. My own custom has been to apply a ten-per-cent. solution as a spray behind the palate, and a similar solution by means of a syringe with a long nozzle to the upper part of the gland through the nares.

The application should be repeated about once a minute until the part is anæsthetized, or in about ten minutes. A self-retaining palate retractor should then be inserted, and the patient may depress his tongue with a depressor. The forceps are then inserted with the aid of a rhinoscopic mirror, and thus one or two bites may be made accurately, but subsequently the blood obstructs the view and the remainder of the operation may be postponed to another sitting, or completed by the sense of touch if the patient will permit. Usually, even with cocaine, after two or three bites have been made, patients prefer to postpone the remainder of the operation. Two or three sittings, however, will be sufficient in the majority of cases. When an anæsthetic is objected to, either in adults or children, if the gland is soft, and if for any reason a perfect operation will not be permitted, a single large bite should be made, as it will give very great relief. In children chloroform or ether should be administered, chloroform being preferable. When anæsthesia is complete the child should be turned upon its abdomen and face, with its mouth over the side of the table, and a gag should be inserted

to hold the teeth apart. Henrotin's gag is the simplest one for this purpose which I have seen, but sometimes Goodwille's will be found preferable, especially in large children. The surgeon, standing at the right side of the table and facing the patient's head, passes the index finger of his left hand behind the palate into the nasopharynx, where it is retained as a guide to the forceps. The forceps are then passed along the dorsal aspect of the finger and accurately applied to the growth. Thus the gland is removed piece by piece, the forceps being guided each time by the finger until every part has been extirpated. Care should be taken to avoid seizing the posterior edge of the vomer or the ends of the Eustachian tubes. The latter often seem to the uneducated finger like abnormal growths. If care is taken not to turn the forceps sideways there is no danger of doing damage, providing the operator is familiar with the normal condition of the parts. Sometimes masses are situated just back of the Eustachian orifices and are liable to be overlooked, but the most common difficulty arises from small pendant masses which hang just back of the choanæ and are liable to be crowded forward into the posterior nares. It is sometimes quite difficult to get the finger in front of these in order to push them back where they may be caught with the forceps. Some operators attempt to scrape them away with the fingernail, but the effort can be only partly successful. When I find difficulty in removing this part with the post-nasal forceps, I employ a straight nasal forceps with cutting edges, which I pass through the nostril and guide to the proper point in the vault of the pharynx with my finger, which is still retained behind the palate. In this manner a piece which might otherwise be difficult to catch is very readily removed.

With the patient in the position that I have recommended there is no necessity for care in swabbing out the throat, as the blood cannot run *up* the trachea.

With the patient on his back and the head thrown far backward, as recommended by some English surgeons, it is necessary to swab out the throat and naso-pharynx frequently in order to prevent blood from getting into the air-passages. There is usually considerable bleeding, but this stops as soon as the operation is completed. However, if undue hæmorrhage should occur, the posterior nares may be packed in the usual way, or, as I prefer, with a long strip of gauze which is saturated with a thick solution of tannic and gallic acids, such as I have recommended for checking nasal hæmorrhage. This should be pushed back through the naris and packed up behind the palate with the finger, which is inserted through the mouth. The nares should also be packed and the gauze brought forward to the nostril, to prevent the packing from falling down into the throat. If it should become necessary to plug the naso-pharynx, the packing should be removed from within twelve to twenty-four hours.

When the operation is completed the mouth should be wiped out and the nostril squeezed to press out as much blood as possible, but it is neither necessary nor desirable to wash out the parts. The patient should then be placed in bed and the friends directed to keep him as much as possible upon the face till he has thoroughly recovered from the chloroform. He should be kept in bed for a few hours, and in the house for from two days to a week, according to the weather. During this time I usually direct that insufflations be made, two or three times during the day, of a powder composed of 2 per cent. of cocaine, 50 per cent. of iodol, and 48 per cent. of sugar of milk. A simple detergent alkaline spray is not objectionable, but washes should be avoided for fear of injuring the middle ear; even sprays will sometimes find their way up the Eustachian tubes, and, therefore, unless, judging from the odor, there seems to

be a special indication for them, I prefer to use simply the powder.

As the result of the operation there is usually a little soreness of the parts for a day or two, but not sufficient to interfere much with swallowing. There is sometimes a slight elevation of temperature. The improvement in breathing is marked and immediate in many cases; very often the friends become alarmed during the first night, because the child breathes so quietly. In cases with deafness, considerable improvement or a cure of this symptom may be expected within a few days or weeks, but alterations of the voice are less rapidly recovered from. Some danger of otitis media exists from the liability of blood or other fluids to pass into the Eustachian tube, but thus far no permanent bad results have come from it in my experience. If the accident occurs, continuous use of hot water in the ear, or hot water with glycerin and opium, and dry heat externally, are the best remedies that can be employed. In some cases nasal obstruction will be found to persist, and it must subsequently receive appropriate treatment.

The results of this operation are the most satisfactory of any that I have seen in the domain of special surgery. In cases in which the operation is needed—and in no others should it be recommended—the patient's general condition undergoes a revolution for the better which often astonishes even the physician, and gives the friends most unbounded satisfaction. It is not unusual for a child of from three to six years of age to gain from twenty per cent. to twenty-five per cent. in weight within five or six months after the removal of the gland. I have never seen ill results follow the operation, and think it safe to tell the friends that when properly done it is no more dangerous than is the removal of a finger.

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SCIENCES, monthly,	

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