

## DISSECTION OF THE FAUCIAL TONSILS UNDER LOCAL ANÆSTHESIA.

BY W. MORRIS, F.R.C.S. EDIN.,

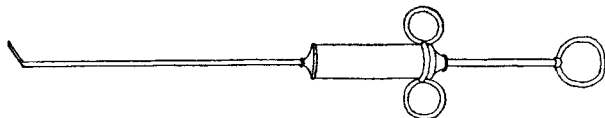
AURAL REGISTRAR TO THE LONDON HOSPITAL.

THE purpose of this communication is to describe briefly the technique adopted in the Mayo Clinic for the complete removal of the tonsils in adults. I am tempted to write it without apology, because the technique should appeal—by its very simplicity and the ease with which it is carried out—to those surgeons who, like myself, have experienced difficulty in arresting post-operative hæmorrhage, and even in removing the type of tonsil which I shall describe below. I found, during a recent visit to the Mayo Clinic, that dissection under local anæsthetic was the invariable method of removing tonsils in all adult cases. While the results obtained were naturally excellent I consider it a waste of time to adopt this method in cases where there is sufficient tonsillar tissue to be protruded through the ring of a guillotine and dislocated forwards in front of the alveolar process, as in Sluder's method. It is, in my opinion, pre-eminently suitable for small fibrotic tonsils, or those in which the bases only are left, after attempted enucleation by Sluder's method has been performed by an inexperienced operator.

The following instruments<sup>1</sup> are used:—

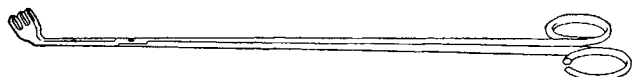
(a) All-metal syringe with a long shank. Total length 8 in. Needle  $\frac{1}{4}$  in. long at an angle of  $45^\circ$  to the shank. Barrel of syringe to hold 1 drachm. (Fig. 1.)

FIG. 1.



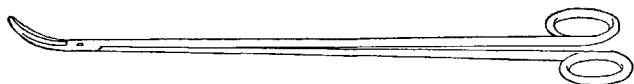
(b) Tonsil forceps (vulsellum type) 8 in. long, blades  $\frac{3}{4}$  in. long, curved at an angle of  $45^\circ$  to the shank, and jaws opening laterally. (Fig. 2.)

FIG. 2.



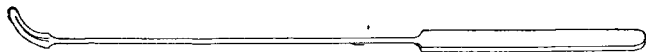
(c) Scissors 8 in. long, blades  $\frac{3}{4}$  in. long, curved on the flat to an angle of  $45^\circ$ . Points medium blunt. (Fig. 3.)

FIG. 3.



(d) Dissector 8 in. long, flat, blunt-pointed blade  $\frac{3}{4}$  in. long, curved on the flat to  $45^\circ$ , both edges being sharp. (Fig. 4.)

FIG. 4.

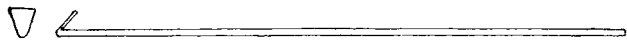


(e) Tonsil clamp. As scissors. Crushing surface  $\frac{1}{8}$  in. broad.

(f) Artery forceps. As scissors. Fine-pointed.

(g) Pillar retractor. (Fig. 5.)

FIG. 5.



(h) Coarse wire snare.

**Anæsthetic.** (To be injected at points shown in Fig. 6).—Adrenalin (1/1000), m℥; cocaine hyd. sol. (0.2 per cent.), ad drachm 1.

**Position of patient.**—Sitting up in a high chair with a head support.

**Operation.**—The tonsil is firmly grasped by the vulsellum forceps and pulled towards the middle line. The capsule is then cut with the scissors in the supra-tonsillar fossa. The blunt point of the dissector is introduced into the opening thus made, and the tonsil separated from the anterior and posterior pillars by cutting the mucous membrane in a downward direction in front and behind the tonsil. This

can equally well be done with the scissors by inserting the closed points into the opening already made in the supra-tonsillar fossa, and opening the blades in front of and behind the tonsil.

With the scissors the tonsil is then separated from its bed by small nibbling cuts, starting at the upper pole and working downwards for about two-thirds of the extent of the bed.

FIG. 6.



FIG. 7.

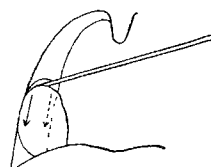


FIG. 8.

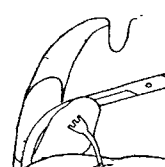


FIG. 7.—Separation of the anterior and posterior pillars with dissector.

FIG. 8.—Tonsil clamp applied to lower third of base of tonsil.

The tonsil is next pulled well towards the mid-line, and the tonsil clamp applied to the remaining undetached portion of the base of the tonsil. Removal of the tonsil is completed by passing a coarse wire snare over the vulsellum forceps, cutting through the remaining portion of the bed, and removing the clamp.

Some operators state that the use of the clamp is not advisable, as it occasionally gives rise to delayed hæmorrhage; they prefer to use the snare alone and ligature any bleeding points afterwards. The whole of the tonsillar fossa can now be exposed by pulling the anterior pillar forwards and outwards with the pillar retractor, and any bleeding points can be secured and ligatured. In expert hands the removal of each tonsil takes about two minutes.

**After-treatment.**—A plain mouth-wash three times a day and a mild laxative.

**Diet.**—Ice-cream for two days; then milk, custard, &c., until the patient can bear to swallow more solid food. Most of the patients were on full diet in six days.

In 72 cases witnessed during my stay I saw no ill-effects from the injection of cocaine. The bleeding during the operation is negligible, and a clear view of the operation field is always obtainable. No case is allowed to leave the theatre until the operator is certain that the bed of the tonsil is dry. The patients state that the operation is without pain.

I consider this to be the ideal operation for complete removal of the tonsils in those cases for which Sluder's method is impracticable for the reasons stated above. In the Mayo Clinic it is used for all adult cases; in my opinion this is unnecessary, as the majority of the cases could be completely enucleated with the guillotine. The operation is practically bloodless, and a clear view of the field is obtainable. All bleeding points are ligatured at once, and the risk of secondary hæmorrhage reduced to a minimum. The use of local anæsthesia gives the operator much more freedom and facilities than does the use of general anæsthesia.

## A STUDY OF THE INDICATIONS FOR REMOVING TONSILS

BY DISSECTION OR BY REVERSE GUILLOTINE.

BY MICHAEL VLASTO, M.B.LOND., F.R.C.S.ENG.,

AURAL SURGEON, QUEEN'S HOSPITAL FOR CHILDREN; ASSISTANT IN EAR, NOSE, AND THROAT DEPARTMENT, CHARING CROSS HOSPITAL.

In some cases, tonsillotomy—the removal of a portion of the tonsil—either by removing the superficially infected crypts or by securing drainage for the deeper ones, may relieve the patient of the symptoms for which the operation was indicated, but to-day it is universally accepted that the only operation that can be entirely relied upon to achieve this result is that in which the whole of the tonsil is removed together with its capsule. This is enucleation of the tonsil, or tonsillectomy.

It is necessary for the purpose of this paper to recognise two classes of operation—viz., those performed on (1) children, and (2) adults.

### Enucleation of the Tonsil in Children.

The conclusions arrived at are based on a series of over 1500 cases. Prior to G. E. Waugh's publication in

<sup>1</sup> These are being made for me by Messrs. Mayer and Phelps, of 59, New Cavendish-street, London, W. 1.

THE LANCET of 1909,<sup>1</sup> it may be stated that in a general way tonsils were removed by the now antiquated guillotine method with which we are all familiar. The advantages claimed by him for his operation over that of the guillotine, as then practised, were so obvious that he immediately secured a crowd of disciples anxious to practise the technique that he had elaborated and preached.

#### *Advantages of Enucleation by Dissection.*

First and foremost he claimed that enucleation of the tonsil by dissection was the only known method for complete removal of the tonsil; his statement reads as follows: "Even in highly skilled and experienced hands the complete removal of the tonsil by means of the guillotine is a task of such mechanical difficulty as to be, except in a few rare cases, quite impossible." Other advantages claimed are that bleeding is slight, that the pillars of the fauces remain comparatively undamaged, and that it is the only true surgical method for the removal of the tonsil.

With respect to the first of these advantages, S. S. Whillis and F. C. Pybus<sup>2</sup> showed us that in a very large percentage of cases, but not in all, the tonsil can be completely enucleated by what is known as the "reverse" guillotine method. This statement is true as regards the tonsil itself, but not as regards its prolongation over the tongue. When the dissection operation first came into vogue great stress was laid on the fact that this lingual prolongation could by this method be removed. I must state, without denying that inflammation of this "tonsillar rest" may occur, that no case of this sort has come under my personal notice. Moreover, a large number of surgeons, perhaps the majority, are not in the habit of stripping this lingual prolongation off the dorsum of the tongue. They know how painful the raw surface so produced can be, and either complete their operations with the snare or guillotine.

That the pillars of the fauces are more likely to be damaged in the guillotine operation than in that of dissection no one who is an honest critic of his own handiwork will deny. I have frequently been surprised to note that tonsils which I imagined to have been neatly enucleated with the guillotine had taken a portion of the pillars away with them, although I have never found that this had produced a harmful effect. This view as to the damage to the pillars, however, is apparently not held by all laryngologists. Dan McKenzie, for instance, states that "a child's tonsils should never be dissected out. Dissection destroys more or less, usually more, of the faucial pillars ..... Enucleation by the guillotine removes the whole of the tonsil yet spares the faucial pillars."<sup>3</sup> The contention that dissection is the only true surgical method of performing this operation is surely unsound. There does not happen to be any other anatomical structure in the body similar to the tonsil requiring similar surgical interference. The case must therefore be judged on its own merits; surgical tradition and inclination must, if necessary, be set aside.

#### *Indications for Enucleation by Dissection.*

If the above facts are true, one can infer that the outstanding indication for enucleation by dissection in children is the presence of a tonsil that cannot, or cannot for certain, be removed by the guillotine. My experience leads me to distinguish three main types of such a tonsil: (a) The "chopped" tonsil; (b) the small fibroid septic tonsil; (c) the "diffuent" tonsil.

(a) *Chopped tonsil.*—This type, which happily is becoming increasingly rare, can frequently be dealt with by the reversed guillotine. But as previous inflammation plus trauma and a buried tonsil may imperil complete obliteration by this method, it would have to be left to the judgment of the surgeon as to which of the two procedures he would adopt.

(b) *Small fibroid septic tonsil.*—This type speaks for itself. It is a small, hard, fibrotic tonsil frequently buried, and with its oral surface sometimes concave. It is not commonly met with in children.

(c) *Diffuent tonsil.*—By a "diffuent" tonsil I mean one with a cauliflower-like appearance and somewhat paler than usual. It is usually soft and mushy, with a poorly developed capsule. It is sticky, often refusing to engage completely in the window of the guillotine, and is, moreover, difficult to remove by the dissection operation.

#### *Advantages of Reversed Guillotine Method.*

So far I have submitted that all tonsils can be successfully enucleated by the dissection operation, and that some in particular can be most satisfactorily removed by this method. In order to decide the more desirable method to employ in that large proportion of cases which can be satisfactorily dealt with by both, we must consider the advantages of the reversed guillotine over the dissection operation.

(a) *Time.*—The time occupied is in practically every case very much shorter than in the case of the dissection operation. Leaving out the shortened period of induction of anaesthesia, it is reckoned in seconds instead of in minutes.

(b) *Anaesthesia.*—The depth and length of the anaesthesia is in nearly all cases shallower and shorter. The statement is nearly correct that whereas a guillotine enucleation can be satisfactorily performed under ethyl chloride or gas and oxygen, a dissection operation cannot. Although their use is sometimes necessary in many overcrowded O.P. clinics I do not personally consider that short anaesthetics such as ethyl chloride are always satisfactory. I have sometimes found on examining hospital children at the post-operative weekly inspection portions of tonsil left behind which had escaped the ring of the guillotine in the scramble operation. The type of anaesthesia which is being considered in this connexion is a light general anaesthesia, sufficiently deep to allow of the jaw being gagged, without forcing, and whereby the pharyngeal reflexes are not necessarily abolished.

(c) *Convalescence and after-pain.*—The primary recovery at hospital and school clinics is of some importance in cases where the children have to go home the same day as the operation. At Charing Cross Hospital, for instance, the children are operated upon between 8.30 and 10 A.M. under the light general anaesthetic above described. They are marshalled for inspection at noon before leaving hospital; as a rule they do not complain of any severe pain. I am convinced that less traumatism of the tonsillar bed is produced by the smooth blade of the guillotine than by the dissecting strokes of the operator, however delicately the latter may operate. At the same time, I am equally convinced that the gentler the operator the more he hugs the capsule and the less he invades the constrictor boundary, the less traumatism, and consequently the less after-pain, is produced. If the capsular surface of two tonsils, one of which has been enucleated by the guillotine and the other by dissection, be inspected, it will be found that whereas the capsule of the former is smooth and white, the latter has a rougher surface and bears the ruddy tinge of its muscular bed. The shortened secondary convalescence is of equal importance in private practice, when the operation takes place in a nursing home and where expense to the patient should be considered by the surgeon.

Personally, I feel that, in the class of case under consideration, from the patient's point of view the reversed guillotine method is the one to be employed; from the point of view of the operator there is not the slightest doubt that operation by dissection is more satisfactory, being carried out with all the time-honoured surgical ritual. The surgeon takes his time; the blood is duly mopped away with gauze swabs, and inspection of the superior constrictor muscle fibres show the surgeon that his work has been well done, and that the whole tonsil with its capsule has been removed. The guillotine operation, per contra, is relatively messy; the surgeon is in a hurry to remove the first tonsil before the little blood that accumulates has had time to obscure the view of the second one. He may instinctively feel that he has effected complete removal, but cannot be certain until he examines the tonsil after removal and, later, inspects the throat at leisure.

A certain number of laryngologists and general surgeons who themselves no longer have to remove tonsils and adenoids en masse in out-patient clinics, never employ any other method in private than dissection, and are loud in their condemnation of any other method. They have been impressed by the advantages of dissection as compared with tonsillotomy, have acquired dexterity in the former operation, and for one reason or another have never troubled to practise the reversed guillotine method.

<sup>1</sup> THE LANCET, 1909, i., p. 1314.

<sup>2</sup> THE LANCET, 1910, ii., 875.

<sup>3</sup> Practitioner, 1917.

If tonsils can be adequately removed by a simple, short operation, entailing less discomfort, less risk, shorter convalescence, and less expense to the patient, surely this operation should commend itself to the surgeon anxious to do his best for the patient. I have purposely not emphasised the fact that the technique of the guillotine is simpler to master than that of dissection; because I feel that if the dissection operation were the better in all cases, it should be cultivated, no matter what its difficulties might be; and, in any case, the throat surgeon should be master of both methods, since both have their uses. No good purpose is served by being dogmatic on the subject. When the surgeon has decided that it is in the child's interest to have his tonsils removed, then he should ask himself if they can be removed with the guillotine. Only if they cannot, in my opinion, should he have recourse to the dissection operation. The fact is now generally recognised that the timely removal of infected tonsils and adenoids is one of the most important advances in preventive medicine. Considering the very large number of cases that have to be dealt with, it is important that the general practitioner should have a sound method in readiness. I submit that the reversed guillotine method is safe, easy to master, and successful in nearly all cases; moreover, it does not require the assistance of an expert anaesthetist.

#### *Enucleation of the Tonsils in Adults.*

The differences between the diseased adult tonsil and that of the child, particularly with respect to suitability for removal with the guillotine, are as follows:—

*Shape.*—The infected adult tonsil tends to be elongated rather than globular, and is not, therefore, well adapted to insertion into the ring of the guillotine.

*Consistency.*—The infected adult tonsil is essentially but not necessarily a fibrotic tonsil. Repeated attacks of inflammation have been followed by repeated processes of repair, of which fibrosis is an expression. The organisms and their evil work have penetrated deeper. The fibrosis affects not only the tonsillar tissue itself with its capsule, but also the cellular tissue between capsule and muscle. There may be no true line of cleavage for the blade of the guillotine to follow. One must bear in mind that the size of a tonsil is no criterion of its infection. It is in adults that we most frequently find the small fibroid tonsils referred to above, and this of all tonsils is the one which defeats the guillotine and invites dissection.

By virtue of their fibrotic character the vessels supplying the tonsils have lost some of their power of retraction. Haemorrhage may therefore be profuse and difficult to control. On the other hand, if dissected out at leisure the original line of demarcation may be more easily found and the bleeding vessels clamped. Some surgeons are not, however, in the habit of dissecting out all tonsils in adults. They feel that, in suitable cases, the advantage of a much smaller dosage of anaesthetic, a far shorter operation, and diminished after-pain outweigh the disadvantage of the brisk haemorrhage that may result.

#### *Conclusions.*

1. That the method of operating in cases requiring tonsillectomy should be governed by the type of tonsil under consideration.
2. That in children tonsillectomy should always, except where contra-indicated, be effected by the reversed guillotine method, preferably under light general anaesthesia.
3. That in adults tonsils should preferably be dissected out.

**EUGENICS EDUCATION SOCIETY.**—The Galton anniversary meeting will take place on Feb. 16th at the Connaught Rooms, Great Queen-street, Kingsway, London, W.C. The Galton lecture will be given by Mr. W. Bateson, F.R.S., at 8.45 P.M., on Common Sense in Racial Problems. The lecture will be preceded by the Galton dinner at 7 P.M. for 7.30, and members are requested to apply for tickets, price 13s. 6d., at the offices of the society (11, Lincoln's Inn-fields, London, W.C. 2) as soon as possible. The financial position of this society is critical and donations or increased subscriptions are invited.

## Clinical Notes:

### MEDICAL, SURGICAL, OBSTETRICAL, AND THERAPEUTICAL.

#### A CASE OF

#### PERSISTENT HICCOUGH

COMPLICATED WITH SPASM OF THE LARYNX.

BY MALCOLM SARKIES, M.R.C.S., L.R.C.P. LOND.

IN view of the epidemic of persistent hiccough now prevalent in France the following case may be of interest:—

The patient, a medical man 47 years of age and of rheumatic habit, had contracted a chill a week previously with a rise of temperature to 101° F., accompanied by an explosive cough. On the fourth night after the onset of the chill he was awakened at 2 A.M. with a hiccough which persisted till the morning. After his breakfast the hiccough stopped, but no sooner he coughed it returned and persisted unremittingly until more food was taken. It then stopped, only to become active once more as soon as he coughed again. He continued to carry on his practice for three days with the hiccough and then sought aid.

On examination no inflammatory condition of the pleurae, peritoneum, or meninges could be discovered, nor was there any evidence of intracranial tumour. Reasoning: The vagi nerves along the trachea were stimulated by the cough, the impulse passing to the medulla, whence a reflex was sent down the phrenics to the diaphragm, producing the hiccough.

Therefore, by curing the cough one would hope to cure the hiccough. With this end in view the patient was put to bed on a milk diet, and the treatment was a tinct. camph. co. and squill cough mixture and inhalations of vapor benzoin. co. He was very much worse the next day, for, in addition to the hiccough, he had developed a recurring spasm of the larynx, which entirely prevented egress or ingress of air for perhaps half a minute at a time and which was most distressing to behold. He had had about 25 such spasms and was in a very exhausted condition.

On examination, the whole of the abdominal cavity was tympanitic and his heart was now remitting irregularly. Reasoning: The milk diet in an "acid" subject (rheumatic) produced much flatulence, some of which was belched up, the sudden forceful rush of wind upwards producing a closure spasm in a tired and overstrained larynx.

Therefore, by curing the flatulence one would hope to cure the laryngeal spasms. With this end in view the milk diet was stopped. In addition to the cough mixture the patient was given an alkaline mixture with some ammon. bromid. in it, a saline draught each morning, and the diet ordered was one of boiled fish, chicken broth, and a little thin bread and butter, with half an ounce of whisky in a wineglass of water twice a day.

In 24 hours the spasms were decidedly less severe and less frequent, and in another 24 hours both the hiccough and the spasm had entirely subsided. In the meantime the cough was very much improved.

The hiccough had lasted 6 days and 6 nights for perhaps 20 hours out of the 24, and occurred not as a single hiccough but in a series of 5 to 8 rapid percussions with an interval of a few seconds between each series; and the laryngeal spasms had lasted 48 hours. The patient made a rapid and uninterrupted recovery.

St. John's Wood, N.W.

#### A CASE OF HICCOUGHING.

ISOLATION OF AN ORGANISM.

BY C. E. JENKINS, M.R.C.S., L.R.C.P. LOND.,

PATHOLOGIST TO SALFORD ROYAL HOSPITAL.

A PECULIAR epidemic of hiccoughing has appeared in various parts of the country. It seems to have started in Austria and spread to this country by way of Switzerland and Paris. It appears to be accompanied by mild catarrhal symptoms in many cases. A case examined by the writer had a profuse yellow nasal secretion of thin consistency.

#### *Examination of Secretion.*

A loopful was divided between two blood-agar plates and well spread. At the end of 24 hours both plates were