SURGICAL PROCEDURES IN GENERAL PRACTICE

This is one of a series of articles contributed by invitation

TONSILLECTOMY

BY

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The indications for tonsillectomy present a problem of daily occurrence varying widely with individual patients, and in practice we must sometimes depart from general rules laid down in academic discussions. Once the question of tonsillectomy has been raised in a particular case there is a tendency towards the view that it can do no harm and always does good by freeing the patient from a focus of sepsis, either actual or potential, and from attacks of tonsillitis, and therefore the sooner the operation is done the better. This doctrine may apply to many patients, but it is far from true in relation to children, to whom it has often been ruthlessly applied. A certain vagueness and difference of opinion on this point is inevitable in the absence of an exact knowledge of the physiology and functional activity of the tonsil in childhood, although various unproved theories have been advanced, but clinical study provides some practical information.

When to Perform Tonsillectomy

Frequently, if not normally, the tonsils in the early years of childhood become enlarged, and this enlargement has been regarded as an indication, with more right as a justification, for removing them. It should in fact be considered primarily as an indication for preserving them, unless the enlargement is so great as to produce mechanically obstructive symptoms, which is quite rare. The nature of the needs in response to which the enlargement occurs is unknown, but these needs are probably nutritional or arise from some defect in nutrition, which will be revealed by research; for it is much commoner in children brought up in poor circumstances than in those for whom an abundant supply of suitable food, fresh air, and light is available. If this hypothesis is correct tonsillar enlargement in early childhood is compensatory in character, and should be treated by improvement in hygiene rather than by extirpation, and this view has the practical support of the observation that recurrence by enlargement of the lingual tonsil and adenoid tissue in the nasopharynx is a common post-operative sequel. It is therefore wise, unless urgent indications are present—and this is rare—to defer any operation until at least the age of 5 and preferably until 7 or even later. It must also be made clear what advantage the child gains if the operation is performed between the ages of 4 and 10 years. Kaiser studied this question in two large groups of children, using one as a control.

Two groups, each comprising 2,200 children, were observed over a period of ten years. In one group the operation of tonsillectomy was performed, and in the other it was recommended but not performed. The benefits obtained in the first three years became less conspicuous in later years, so that the clinical condition of the members in the two groups became more alike. Thus the immediate freedom from sore throats was not maintained, and seven years later 10 per cent. in the first group were found to be still subject to them. The incidence of rheumatic fever proved to be 33 per cent. less in those

children whose tonsils had been removed, but the operation has no influence in preventing recurrent attacks of rheumatism when performed after the initial attack. It does not protect against rheumatic carditis, nor does it affect the incidence of chorea. It gives some slight protection against scarlet fever, but reduces its incidence by less than 50 per cent. The influence of tonsillectomy on the incidence of diphtheria is more pronounced. Consequently, in recommending the operation on relative indications certain benefits to the child may be legitimately claimed, but these can be easily exaggerated.

Frequently recurring sore throats and enlargement of the cervical lymphatic glands are absolute indications for tonsillectomy in children. Nasal obstruction and otorrhoea in the absence of caries of the middle ear are indications for the removal of adenoids but not necessarily of tonsils, and in small children preservation of the latter is the best guarantee against recurrence of adenoids. In bigger children, in whom the physiological need for lymphoid tissue is diminishing, it is customary to combine the two operations, and this usually gives a satisfactory result without great risk of recurrence.

In older persons the tonsils may be removed on account of recurrent sore throats or quinsies, on account of persistent enlargement or infection in a tonsil which has been the site of tonsillitis, or to eliminate a source of focal sepsis which is causing remote symptoms such as rheumatism, arthritis, neuritis, iritis, cardiac irregularities, and digestive disorders. In the first group the indication is an absolute one provided that no general contraindication to surgical intervention is present; in the second group the indication is relative, and a reasonable connexion must be established before recommending tonsillectomy, but in well-chosen cases the elimination of a septic focus has a strikingly beneficial effect on a remote lesion. The age of the patient is not of much consequence provided that definite indications are present, and tonsillectomy is sometimes of great benefit to old people; but in the absence of clearly defined indications the result is apt to be disappointing in elderly persons.

Before recommending tonsillectomy for focal sepsis it is necessary to demonstrate that the tonsils are grossly infected, and this is not always quite simple, because in such cases the tonsils are often small, are concealed by the faucial pillars, and at first glance may appear to be absent. Two small tongue depressors should be used; with one of these the back of the tongue is depressed, and with the other the anterior pillar is pressed aside, exposing the underlying tonsil. By this manoeuvre a gush of sour foul-smelling pus can often be expressed from the crypta magna or supratonsillar fossa. A crimson patch on the anterior pillar is an indication of this condition underneath.

Technique

In the matter of technique a variety of different opinions and details of procedure are current in the operation for removal of the tonsils. In children it may be done with the guillotine or by dissection, but it is a good general rule not to use the guillotine after the age of 15, and many surgeons now prefer the operation by dissection for patients of all ages. The soft friable tonsils, which tear readily, are more easily removed with the guillotine than

by dissection. The guillotine method has also the advantage of rapidity, but some practice is necessary to acquire sufficient dexterity. Compared with the dissection method, however, it has the disadvantage that, the deep surface of the tonsil not always being smooth, an outlying part projecting through the capsule may be shaved off and remain in the tonsil bed; and, again, occasionally a vein in the tonsil bed is buttonholed and, being unable to retract, continues to bleed through the lateral opening. That portions of tonsil are sometimes left behind after the guillotine operation, if not skilfully performed, is insufficient ground to condemn it, because the same thing may occur after dissection.

Whichever method is employed the aim of the operator should be to remove the whole tonsil without injury to the faucial pillars or to the palate. Healing then takes

FIG. 1.

FIG. 2.

place with the minimum of scar tissue and distortion. If the uvula is accidentally included in the ring of the guillotine or the pillars are torn during dissection, gross deformity of the fauces and soft palate may be produced.

Enucleation by the Guillotine

The operation can be performed under a short anaesthetic with ethyl chloride, but a more deliberate procedure under ether is preferable. The patient lies on the back with the shoulder slightly raised on a low pillow or a folded towel. The anaesthetist stands at the head of the table, and the operator on the right-hand side of the patient. The mouth is opened with a Doyen's gag, but not so widely as to stretch the pillars of the fauces. The tongue is depressed and the ring of the guillotine passed under the lower pole of the right tonsil, with the handle of the instrument pointing to the left of the patient

(Fig. 1). The hand is now depressed so that the tonsil is levered forward by the instrument on to the alveolar eminence of the mandible (Fig. 2). This eminence is formed by the projection of the last molar tooth at the end of the mylohyoid ridge. The handle of the instrument now lies across the left cheek of the patient. The left forefinger is then removed from the corner of the mouth and pressed against the anterior faucial pillar, so that the entire tonsil is gently pushed through the ring of the guillotine (Fig. 3). The tonsil can be felt to slip through the ring, and the blade is then closed by the thumb of the right hand, with the cutting edge between the anterior pillar and the tonsil. The hand is now pronated and the tonsil lifted out, held on the lower surface of the guillotine (Fig. 4). To remove the left tonsil the hands must be used in the reverse way, the guillotine being held in the left hand, or, alternatively, the operator must move to the head of the table and stand behind the patient. In this way the tonsil is removed complete, including the supratonsillar fossa.

The smallest guillotine which will allow the entire tonsil to pass through the ring should be used, and the blade

FIG. 3.

FIG. 4.

should be slightly blunted so that it will follow the line between the capsule of the tonsil and the side of the pharynx without cutting into the substance of the tonsil. The blade also crushes the blood vessels supplying the tonsil, but must not be too blunt, otherwise that organ is torn out of its bed instead of being cut away.

Enucleation by Dissection

For the operation by dissection either a local or a general anaesthetic may be used, but the former is only suitable for adults. For local anaesthesia the patient is placed in the sitting position and a little 5 per cent. cocaine is applied to the fauces. An injection of 2 per cent. novocain with 1 in 10,000 adrenaline is then made with a long needle in five spots in the fauces around each tonsil—one above, two behind, and two in front. If general anaesthesia is employed the patient is usually

placed on the back with the head well extended, so that blood runs down into the nasopharynx. The mouth is opened with a Doyen gag and the tongue drawn forward ; or a Davis gag, which holds down the back of the tongue

FIG. 5.

and at the same time draws it forward, may be used (Fig. 5). The latter gag is popular and is much employed ; but it is complicated and easily put out of order, and is not necessary. It is quite as satisfactory to use the position recommended by Butlin, in which the patient is turned on to the right shoulder. With the mouth gaged

even for a nervous subject. Simple general anaesthesia by inhalation and insufflation is the safest and most satisfactory method. The operator either sits at the head of the table or stands on the right-hand side, according to the patient's position, and he should wear a head-light. The tonsil is seized with forceps and the mucous membrane divided at its reflection from the anterior pillar or to the tonsil. The mucous membrane is thus divided well behind the free edge of the pillar, which is kept covered with an intact surface of mucous membrane. This opening can be made with the point of a knife or closed fine dissecting forceps, and the white smooth capsule of the tonsil is exposed, showing that the dissection is proceeding in the right layer (Fig. 6). If there has been a previous operation the tonsil is often surrounded by an annular scar, and the anterior pillar must be picked up and the incision made underneath it to expose the capsule before the tonsil can be grasped: this is a satisfactory routine method of beginning the dissection. By blunt dissection close to the capsule with long-handled scissors and dissecting forceps the tonsil is then shelled out of its bed, the mucous membrane being divided all round the periphery (Fig. 7). The lower pole is often well defined, but in many cases it merges into the lingual tonsil and must be divided with scissors (Fig. 8)—a more satisfactory method than the use of a snare, as the division can be made with greater precision, without the risk of leaving a part of the lower pole behind. The tonsil is not in direct relation to the superior constrictor of the pharynx, but is separated from it by the palatopharyngeus. This muscle spreads out, sending a slip that is attached to the capsule of the tonsil just below the middle, and accounts for the frequency with which muscle fibres are found on the capsule of excised tonsils.

The blood vessels torn across by the blunt dissection stop bleeding quickly as a rule if gauze swabs are applied, or, if this fails, pledgets of cotton-wool often succeed. Any persistent bleeding usually comes from a vessel about the middle of the tonsil bed, less commonly at the lower end near the tongue.

FIG. 6.

FIG. 7.

FIG. 8.

open and the tongue drawn forwards, blood collects in the cheek and runs out of the corner of the mouth.

Intratracheal anaesthesia with gas-oxygen and ether is often employed ; but it causes increased bleeding, though it has the advantage that the entrance to the larynx can be packed off round the intratracheal tube. Preliminary medication with avertin, paraldehyde, or barbiturate compounds is also often used, with the object of allaying the apprehensions of the patient, but much post-operative anxiety is thus caused, and it lacks any real justification

Many instruments have been devised to apply ligatures to bleeding-points. The simplest and most certain method is to pick up the bleeding vessel with long forceps and to under-run and tie it with a silk ligature on a Reverdin needle. This leaves the faucial pillars quite intact. In the few cases where this fails the Reverdin needle can be used to transfix and suture the pillars together with silk threads. This obliterates the raw tonsil bed ; but it causes scarring, and the sutures should be divided on the following day.

If reactionary haemorrhage occurs within the first twelve hours and does not cease very quickly it is better to give the patient a second anaesthetic and secure the bleeding-point. Secondary haemorrhage occasionally appears about the sixth day after the operation, when the slough which forms over the raw surface separates. This seldom causes any serious trouble, but to avoid it the patient should remain quiet, wherever the operation is done, until the seventh or eighth day.

Adenoids

When adenoids require removal at the same operation it is usual to do this after the tonsillectomy has been completed. The palate is drawn forwards with a finger or with a palate retractor; the adenoid curette is inserted into the nasopharynx until the beak touches the vomer and is then swept firmly round, following the curve of the nasopharyngeal vault. After the operation the patient should be watched carefully for any reactionary bleeding, as this may be concealed if the blood is swallowed instead of ejected. Powdered aspirin or aspirin gargle usually suffices to relieve pain, but for adults an injection of morphine is permissible on the evening after the operation. Cold soft food may be taken the following day: ice-cream is welcomed by children. A purge is usually indicated within the first forty-eight hours to rid the bowel of swallowed blood. Cascara is suitable, but salines should be avoided as they are very painful to swallow.

After-treatment

A rare but tiresome complication is temporary paresis of the soft palate due to infiltration and swelling of the muscles. This causes difficulty in swallowing, and regurgitation, particularly of fluids, through the nose, which may last for about ten days. Some additional care is then necessary in the choice of suitable soft food, such as scrambled eggs, porridge with cream, or mashed potatoes; meat, toast, biscuits, and cheese are particularly difficult to swallow in this condition, and are accordingly to be avoided. The difficulty in taking fluid may be overcome to some extent by suction through a tube or a straw.

ANTI-VENEREAL MEASURES IN SCANDINAVIA

COMMISSION'S REPORT

Should venereal disease be dealt with compulsorily in this country or not? This question was raised before the Trevethin Committee in 1923, in Parliament by the Edinburgh Corporation in 1928, and on a number of other occasions by various bodies and individuals. Many arguments have been put forward for and against such a policy, and with a view to obtaining some definite evidence of its value or otherwise the British Social Hygiene Council in June, 1936, urged the Minister of Health to send a commission of experts to Denmark, Sweden, Norway, and Holland to study conditions in these countries. The commission, which consisted of Colonel L. W. Harrison and Mr. Dudley C. L. Ward of the Ministry of Health, Dr. T. Ferguson of the Department of Health for Scotland, and Dr. Margaret Rorke of the Royal Free Hospital, London, has just issued its report.*

For and Against Compulsion

Before considering this report it may be instructive to consider some of the arguments which have been advanced

* *Anti-Venereal Measures in Certain Scandinavian Countries and Holland.* Reports on Public Health and Medical Subjects. No. 83. H.M. Stationery Office. (2s. 6d.) A general article on the Commission's visit to Scandinavia appeared in the *Journal* of June 4.

for and against a policy of compulsory treatment. Those in favour of such a policy point out that (1) many persons infected with venereal disease in a contagious form never come under medical care and thereby spread infection (these are chiefly women); (2) large numbers of patients at V.D. clinics default before they have completed treatment and/or become non-contagious; and (3) parents frequently fail, through ignorance or unwillingness, to have their congenitally syphilitic children treated adequately, and therefore prejudice their chances of growing up to become healthy and useful citizens.

Those against point out that compulsory measures (1) may induce the infected to conceal their disease from fear of exposure; (2) are not easy to apply in such a densely populated country as this on account of the difficulty of tracing those who try to avoid the law; (3) may open the way to blackmail; and (4) are not consonant with the British idea of the liberty of the subject.

The Trevethin Committee appear to have considered legislation impracticable and inadvisable, and the Edinburgh Corporation Bill was defeated in the House of Commons on its second reading by 156 votes to 93, so that it would seem that general opinion in this country is against compulsory treatment. On the other hand, there are those who point to the remarkably low incidence of syphilis in those countries which have adopted compulsion. In order to form an opinion as to how far conditions are comparable between the countries mentioned and Great Britain it may be useful to consider each country in turn.

Denmark

Denmark has an area of 16,575 square miles and a population of 3,706,349, giving a density of 224 per square mile, which is about one-third of that of England and Wales. Copenhagen has a population of 666,269, and of the eighty-five provincial towns only two have a population of more than 50,000, fifty-seven having less than 10,000. The population is therefore much more rural than in this country, but ports are numerous and communication by sea very free; the former is admitted to lead to a low incidence of venereal disease while the latter allows of its importation.

The standards of education and intelligence of the population are high, and public health administration is advanced; medical education is thorough and occupies a minimum of seven years; a "specialist" has to spend several years more studying his own and other subjects. The result is that the medical profession has a very high standing and patients attach much weight to the opinions of their doctors.

Legislation for the control of venereal diseases dates back to 1774, and at the present time the law of 1906 is in force. Under this every person suffering from a venereal disease is entitled to free treatment but is obliged to submit to it; concealment and conveying of infection are punishable by imprisonment up to four years; doctors must make a return of their cases, though notification of individual cases is not necessary; defaulters may be punished and compelled to attend for treatment, if necessary by the police; a certificate of freedom from venereal disease is required for marriage, and if either party at the time of consummation was suffering from a venereal disease in a communicable form a judicial separation or a divorce may be obtained.

TREATMENT AND INCIDENCE

Free treatment is available for all; there are seven centres in Copenhagen, and in most other places treatment is carried out by district health officers or specially authorized local practitioners; ample bed accommodation is provided. The cost is about one million kroner† per annum. Serum tests for the whole country are carried out at the State Serum Institute and by this means there has been established a unique institution for the statistical study of syphilitic infection; some 110,000 blood samples are received each year.

It is considered that very few persons evade the law of compulsory treatment. The police have rarely to be called

† About £45,000 per annum.