REFRESHER COURSE FOR GENERAL PRACTITIONERS

PROS AND CONS OF TONSILLECTOMY

BY

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There are few subjects on which opinions are more divided than on that of tonsillectomy. The differences of opinion are reflected in the bewildering array of indications and contraindications for operation given in textbooks of otolaryngology and of paediatrics. Generally speaking the indications given are of two kinds: those associated with purely local symptoms and signs, and those associated with general conditions, particularly those in which *Streptococcus pyogenes* is believed to play an important part. Some authorities lay stress on the local condition of the adenoids, tonsils, and cervical glands, whereas others say that the local condition is relatively unimportant and that the history of local infection or of general disease is the important matter in deciding whether operation is necessary or not. Some authorities advise the removal of adenoids alone, particularly in young children, but it is doubtful whether, in actual practice, this is often done.

Frequency of Tonsillectomy

There is evidence that these differences of opinion have led to wide variations in practice. For example, in the public schools which took part in the report on epidemics in schools* 60% of boys and 45% of girls had had their tonsils removed before they reached public-school age, and in some schools the figure was as high as 80%. These figures are for pre-war years, but there is recent evidence to show that the rates are not very different now. On the other hand, we find that in some of the great industrial cities less than 1% of the children at primary and secondary schools have their tonsils removed in a year, which means, allowing for those who are operated on before they go to school, that less than 20% of them will have had their tonsils out by the time they reach the age of 15. In some of the south coast towns the operation rates approach those found in children of the social class who go to public schools. Comprehensive reviews of tonsillectomy rates in different parts of the country have shown that there can be no explanations of these great variations other than differences of medical opinion and, possibly, differences in the facilities available for performing operations.

When Should Tonsillectomies be Done?

The problem of tonsillectomy has recently become even more complicated than it used to be because of the increased prevalence of poliomyelitis. Formerly it was generally accepted that when the operation had been decided on it was better to get it done in the warmer weather, when streptococcal infections are at their lowest ebb, but the fact that the prevalence of poliomyelitis is highest in the summer and autumn has complicated the issue, and the problem is now not only whether the operation should be done but when it should be done.

**Spec. Rep. Ser. med. Res. Coun., Lond.*, No. 227. The report covers the years 1932-34 inclusive and summarizes the experience of 20 boys' schools and 10 girls' schools with an average population of 10,270 boys (8,287 boarders) and 3,503 girls (3,061 boarders). A further report issued by the Medical Research Council, No. 271, covers the years 1935-39.

Does Tonsillectomy do Any Good?

In what follows something will be said about statistical evidence, because such evidence is objective and is relevant to the consideration of the general indications and contraindications of operation, but it must always be remembered that all the statistical evidence in the world, however carefully compiled, will not solve the problem in the individual case. Whether a child should have his tonsils out, and when, is a clinical and not a statistical problem.

Evidence from Surveys

Several large-scale surveys have been undertaken in America and in this country in the attempt to decide how far tonsillectomy achieves the objects for which it is done. One of the best known of these is that of Kaiser, who followed up 4,400 children; half of these had had the operation and the other half, although recommended for operation, had, for various reasons, not been operated on. Kaiser found that on the whole the relatively short-term follow-up, after three years, revealed greater advantages in the treated group than did the long-term follow-up, after ten years. He points out that this is to be expected, since older children are less liable to suffer from infections of the upper respiratory tract than are young children.

Kaiser found that the advantage of the treated group over the untreated group was most obvious when the child had a history of frequent attacks of tonsillitis. As a result of his survey he suggested the following as being definite indications for operation: (1) interference with normal breathing, snoring, etc.; (2) difficulty in swallowing; (3) nasal or altered voice; (4) persistent nasal discharge; (5) impaired hearing and otitis media; (6) repeated attacks of tonsillitis or quinsy; (7) enlarged cervical glands; (8) sinus trouble; (9) growing pains or rheumatic fever; (10) pyelitis, nephritis; (11) unexplained malnutrition and anorexia; and (12) retarded mental development. He considered that there was no advantage to the treated group in respect of lung diseases.

It would probably be generally agreed now that some of Kaiser's recommendations went beyond his evidence, and that many of his definite indications, particularly those involving general diseases—for example, Nos. 9-12—are at least very doubtful.

In this country the approach to the problem has been rather different, and attempts have been made to compare the incidence of certain conditions which are thought to have some association with tonsils and adenoids in groups of children who have been operated on and in groups who have not. In the report on epidemics in schools, which was concerned for the most part with children over 13 years of age, it was found that there was virtually no difference in the attack rates of nasopharyngeal infections, scarlet fever, rheumatism, appendicitis, otitis media (with or without mastoiditis), or pneumonia in the operated and unoperated groups. During the course of the inquiry 364 boys had their tonsils removed, and in these cases the operation seemed

to reduce the amount of school time lost through illness. This section of the report ends with the words: "One cannot avoid the conclusion that there is a tendency for the operation to be performed as a routine prophylactic ritual for no particular reason and with no particular result."

In a more recent but less comprehensive follow-up of 337 children operated upon at the Radcliffe Infirmary, Oxford, in the years 1947 and 1948 it was found that operation reduced liability to sore throats and to colds, but the other findings were more uncertain, although there was a suggestion that the relatively small number of children who had ear disease before operation were improved after operation. It should be noted that most other authorities seem to be doubtful whether the frequency of colds is reduced by operation.

In spite of the very large number of figures published a really convincing statistical examination of the effects of tonsillectomy has yet to be made. It would not be at all easy to plan such a survey, but the Oxford inquiry gives an outline of a method which might be adopted.

Clinical Opinion

As has been said above, the recommendations of those whose views are entitled to respect, because of their wide experience, differ considerably and are extremely difficult to summarize. There are, however, certain recommendations which seem to be generally accepted.*

1. Tonsils should very rarely be removed before the age of 5. Adenoids should be removed at any age if they are causing nasal or Eustachian obstruction. It must be remembered that there are common causes of nasal obstruction other than adenoids.

2. The operation should not be performed on a child who has never had symptoms, whatever may be the appearance of the tonsils. Their appearance varies enormously in the same child at different times.

3. Tonsils should be removed on account of frequent attacks of tonsillitis with fever. True tonsillitis should be distinguished from the transient sore throat which often precedes the development of a cold in the head. The exact number of attacks in a year which should be regarded as significant is disputed—some would say two, some three or four. It is perhaps more important to consider the degree of general disturbance—temperature and duration—rather than the exact number of the attacks. In this connexion it is misleading to think only of "sore throats," because a child may have a quite severe degree of general disturbance due to tonsillitis without complaining much of sore throat.

4. Tonsils should be removed at a suitable interval after a quinsy.

5. Tonsils should be removed in the very rare instances when they are so large that they cause mechanical obstruction.

6. Tonsils should be removed in chronic diphtheria carriers when other treatment has failed.

These are the indications which would be generally accepted, and it remains to discuss the very difficult subject of disputed indications.

Disputed Indications for Tonsillectomy

General Diseases

Tonsillectomy has at some time been recommended for almost every disease of children and for many conditions such as mental retardation or enuresis which can hardly be called diseases. Probably no one now believes

that tonsillectomy has any influence on general diseases other than those which appear to have some association with infection of the throat by *Str. pyogenes*, and for practical purposes these may be reduced to juvenile rheumatism and nephritis. There is little doubt that when a first attack or a relapse of acute rheumatism occurs it has often been preceded by an attack of tonsillitis occurring about three weeks before, and the relation between tonsillitis and nephritis is similar. In these cases it is probably wise to apply the same criteria in deciding the need for operation as those suggested above for children in general. It must be remembered, however, that operation may have the same effect as an attack of tonsillitis in precipitating an attack of rheumatism or nephritis. Operation should therefore be done only when the disease has been quiescent for some months, and under full cover of penicillin.

Enlarged Cervical Glands

This condition is so common in children and there are so many causes for it that it is not a very useful guide to decision. Sometimes, however, *Str. pyogenes* seems to leave the tonsils almost unscathed and to attack the glands directly. Admittedly it seems illogical to suggest that when this process happens repeatedly it is an indication for operation, but I believe that it is. This type of occurrence is probably really an example of tonsillitis without much "sore throat."

Risks of Operation

The operation has a small but quite definite mortality. No one knows exactly what it is, because the total number of operations performed in a year is not known, nor is it possible to determine the exact number of deaths properly attributable to the operation. It seems likely, however, that about 80 deaths a year occur as a direct result of the operation.

The possibility of throat infections or even of septicaemia following operation has been mentioned above. With adequate precautions it should be possible to avoid this risk.

Tonsillectomy and Poliomyelitis

The possibility which has undoubtedly aroused the greatest anxiety recently is that of an association between operation and poliomyelitis. As in the surveys on the effects of operation, vast arrays of figures have been amassed by both sides in this controversy. Unfortunately most of these figures are unconvincing.

But a more important matter is that of the possible association between tonsillectomy and poliomyelitis of severe bulbar type. Everyone has heard of the five children of one family in Akron, Ohio, who had their tonsils removed in August, 1941, and all developed bulbar poliomyelitis, of which three died. The sixth and youngest child, who was not operated upon, did not develop poliomyelitis, although excreting poliomyelitis virus in the faeces.

In a nation-wide survey of cases of poliomyelitis treated in hospitals in this country in 1949, 16 cases of poliomyelitis were reported as having followed within one month of an operation for tonsillectomy. Of these, four died (two were brothers) of bulbar poliomyelitis, four had bulbar signs and recovered, seven had the spinal type of disease and recovered, and one had no paralysis. Admittedly the risk of a patient's developing bulbar poliomyelitis after tonsillectomy is a remote

*The recommendations listed are based largely on opinions given at a discussion at the Royal Society of Medicine (*Proc. R. Soc. Med.*, 1950, 43, 317).

one, but it is so tragic a possibility that few people would knowingly allow their children to run it. We know that at certain times and in certain places the virus of poliomyelitis is widely distributed among the population, and, when it is, tonsillectomies should be discontinued altogether or at any rate confined to those cases in which the operation is really a matter of urgency.

Conclusion

The decision whether tonsillectomy is necessary or not is by no means an easy one, and both the general practitioner and the laryngologist have a contribution to make to it. The general practitioner knows how often the child has had tonsillitis and how ill he has been with it, and the laryngologist is in the best position to evaluate symptoms of nasal and Eustachian obstruction and to consider how far the child's symptoms may be due to a chronic sinusitis. Generally speaking it is better to delay decision than to hurry it, and above all to avoid operation on tonsils which have been recently inflamed.

ORDER OF ST. JOHN OF JERUSALEM

The *London Gazette* has announced the following promotions in, and appointments to, the Venerable Order of the Hospital of St. John of Jerusalem:

As Knights: Drs. Erik Hoerman and C. Gardiner-Hill. *As Commanders (Brothers):* Colonel K. B. Fraser, M.B., Drs. E. P. Scott, R. V. S. Cooper, W. B. Fox, J. R. Hanna, C. S. C. Prance, D. J. Nicol, N. S. B. Vinter, and E. M. Humphery. *As Associate Commander (Brother):* Major S. K. Engineer, O.B.E., F.R.C.P.Ed. *As Officers (Brothers):* Drs. S. I. A. Laidlaw, B. LaHaye, C. H. Vernon, B. L. Steele, C. E. H. Gater, H. E. Thomas, and L. G. Norman. *As Associate Officers (Brothers):* Lieutenant-Colonel P. M. Petigara, M.B., and Drs. B. B. Rai and K. B. M. S. Mahmood. *As Officer (Sister):* Dr. Ella P. Hoggood. *As Associate Officer (Sister):* Dr. Rose Baranov. *As Serving Brothers:* Colonels R. J. M. Horne, M.B., and J. F. O'Grady, M.B., T.D., D.L., Majors W. C. Lowry, M.B.E., M.D., and R. Rutherford, M.B., R.A.M.C., Drs. M. A. Foulis, J. L. du Preez, L. F. C. Berlinguet, L. M. Hanna, J. A. Melanson, G. Racicot, J. Robertson, A. Turner, G. S. Mather, J. E. S. Hamilton, A. Morrison, T. Staines-Read, N. MacLeod, C. B. Ball, M.B.E., S. G. Nelson, G. J. Duncan, J. R. Thompson, F. F. Heddle, E. C. Pope, and I. O. Thorburn. *As Associate Serving Brother:* Dr. P. K. K. E. Raja. *As Serving Sisters:* Drs. Joan B. Landsman, Margherita M. Freeman, Janet P. Cooper, and Jane M. Adam.

In a recent issue of the *Canadian Journal of Public Health* Sir James Stirling Ross draws attention to a passage in Aristotle's *Rhetoric* (Book 1, Chapter 5) which discusses happiness (εὐδαιμονία, eudaimonia), health (ὑγίεια, hygieia), and well-being in old age (εὐγερία, eueria), and says of the last-named, in Sir James's rough translation: "Eueria may be defined as slowness in the oncome of old age, with freedom from pain. You cannot call a man happy in his old age either if he ages quickly or if he ages slowly but with pain. Eueria comes from the virtues of the body and from good fortune. A man may be free from diseases and enjoy physical strength and yet not be free from suffering pain, and without good fortune a man could not reach to an old age. There is also a certain power of long life apart from strength and good health: for many men are long-lived without the virtues of the body. But a high precision in these matters is out of place in this discussion." Sir James suggests that the word geriatrics now in vogue, although without any classical authority, should be dropped in favour of the use of eueria, which is also more euphonious and expresses well the meaning of "ageing successfully." Geriatrics means the healing of old age, but of course the doctor's job is not to heal old age, for it is no disease, but to protect it from going awry.

Reports of Societies

VAGINAL DISCHARGE

At a meeting of the Devon and Exeter Medico-Chirurgical Society held on December 21, 1950, Dr. MARGARET HADLEY JACKSON gave an address on vaginal discharge.

Dr. Jackson said that some degree of discharge from the vagina was normal, though the character of the discharge varied according to the age of the woman. Thus microscopical examination permitted the recognition of infantile, mature (during the child-bearing years), and post-menopausal (senile) types. In the mature type three distinct groups could be distinguished by their characteristic flora, each of which was commonly encountered and tended to be fairly constant in any particular individual. When confronted with a case of vaginal discharge it was useful to attempt to classify it as physiological, due to hormonal imbalance, or pathological.

Among infants and children, whose vaginal mucosa was thin, the commonest cause of discharge was vaginitis, either traumatic from foreign bodies or masturbation, or infective, due to the gonococcus or other organisms. In the mature woman other traumatic causes had to be borne in mind, such as rings, menstrual tampons, or buried sutures after perineal repair. In addition one had to consider the possibility of allergic reactions to contraceptives, of infestation with trichomonas or yeasts (the latter particularly in pregnancy and diabetes mellitus), of venereal disease, of cervical and uterine lesions, and of fistulae into the bladder or rectum. In the post-menopausal woman, in whom the mucosa had again become thin, in addition to discharges due to polyps or malignant disease one encountered an atrophic vaginitis often characterized by a profuse and offensive discharge but with trichomonas and monilia almost invariably absent.

The history was of the first importance. Was there irritation, soreness, dysuria, or bleeding? Had there been a venereal contact? The source of the discharge had to be located, the urine tested, and threadworms and piles excluded. The macroscopic appearance of the discharge was often characteristic. To examine the discharge microscopically a specimen should be collected from the fornices with a long-handled bakelite spoon, and a wet film made. Elaborate methods of illumination or staining were not essential in the majority of cases or unless venereal disease was suspected.

Trichomonal Infestation

Treatment must be appropriate to the cause, that of trichomonal and monilial infestations being sometimes tedious. Dr. Jackson advocated ringing the changes on two or more methods of treatment in cases of trichomonal infestation—e.g., "picragol" powder, acetarsol tablets, or "carbarsone" suppositories, combined with douching with hypochlorite solutions (as in veterinary practice) or with lactic acid—and in cases where the mucosa was thin, and most particularly in the young, the use of oestrogens either locally or orally. Where the husband was also infected with trichomonas the wife was constantly subject to reinfection; however, the treatment of the male was extremely difficult.

Out of a series of 468 women attending the Whitechapel Clinic 232 had been found to be infested with trichomonas; of these, 102 also had gonorrhoea. In a series of infertile women attending the Exeter and District Women's Welfare Association clinic the incidence of trichomonal infestation was 15%, while in a birth-control series at the same clinic it was only 5%. This lent support to the view that chemical contraceptives had a deterrent effect on trichomonas.

For the treatment of monilial infestation Dr. Jackson recommended alkaline douches and the use of a gentian-violet-glycerin-and-borax suppository; for vaginitis in the very young, oestrogens by mouth or locally were undoubtedly of value. Non-specific cervical discharges yielded dramatically to treatment with the electric cautery, together with sulphonamides by mouth or penicillin by injection.