TUBERCULOSIS OF THE LARYNX.

SIR STCLAIR THOMSON'S REPORT.

A REPORT entitled *Tuberculosis of the Larynx*, by Sir StClair Thomson, has been issued by the Medical Research Council.[1]

Tuberculosis of the larynx is the most common chronic affection of the larynx and one of the most serious diseases of the throat. Sir StClair Thomson estimates that in each year over 55,000 persons in England are suffering from tuberculosis laryngitis. About twenty-five years ago some laryngologists discussed the question whether or not it was worth while to treat patients afflicted with tuberculosis of the larynx. At that time the disease was much more common than it is to-day. John Nolan Mackenzie, of Baltimore, writing of the work seen at the Throat Hospital, Golden Square, in 1879, says: "Amongst our most frequent visitors to the clinic were cases of tuberculosis of the larynx . . . they came by the hundreds." These cases were looked upon as quite hopeless. Morell Mackenzie wrote, in 1880: "The prognosis of laryngeal phthitis is always extremely unfavourable and it is not certain that any cases ever recover." In 1908, at the International Congress of Laryngology in Vienna, it was stated: "The cure of tuberculosis of the larynx is still to-day an exception."

From the hopeless outlook of a comparatively few years ago there has been to-day a reaction which is as harmful in its unjustifiable optimism. A recent writer has stated that it is now "universally admitted that tuberculosis of the larynx is a comparatively benign disease which is nearly always automatically arrested when the original pulmonary disease becomes quiescent." Such a statement, Sir StClair Thomson points out, can be controverted by the reports of any tuberculosis sanatorium. Indeed, it may be laid down that next to invasion of the meninges a lesion in the larynx is the most dangerous manifestation of tuberculosis. Sir StClair Thomson says that of those cases of laryngeal tuberculosis, many of them in an early stage, which he saw between 1911 and 1921 at the Midhurst Sanatorium 70.5 per cent. are already dead. In view, therefore, of the modern conception of tuberculosis as a whole, and the alteration of scene and circumstance in which it is now investigated and treated, there is need for a revised view of the whole problem, and the publication of the present report is opportune.

Sir William Milligan suggested not long ago in our columns that the physician who to-day is unable to use the laryngoscope and to interpret the clinical features brought under his very eye is like the captain of a ship without his chart. That is, perhaps, rather an extreme statement, but certainly laryngology is playing an increasingly important part in relation to general medicine, and a knowledge of the appearance of the interior of the larynx is of the greatest value in the diagnosis of many pathological conditions, both local and general. Laryngoscopic examination in every suspected case of pulmonary tuberculosis and of a periodical inspection in all chronic cases is important.

Frequency.

The great extension of sanatorium treatment in recent years has provided opportunities for the continuous study of tuberculosis of the larynx at a much earlier stage of the disease and under greatly more favourable conditions than was previously possible. One of the most valuable gains of laryngological practice in a sanatorium is the field afforded not only for studying the early cases of tuberculosis of the throat but for watching the actual invasion of the larynx. A sanatorium has also the advantage over a hospital and over private practice that it offers the opportunity for following up the after-history of nearly every patient, and in this way the prognosis of tuberculosis of the larynx can be better gauged.

Sir StClair Thomson says that during the thirteen years since he was appointed laryngologist to the King Edward VII Sanatorium, Midhurst, he has examined the larynx of every patient admitted, with the exception of a small number whose sojourn was much below the usual minimum period. Whether there were any symptoms referable to the throat or not, each patient on admission was submitted to a careful examination of the larynx, pharynx, and nose. Those with a local lesion, or even with a doubtful or suspicious symptom, were subsequently examined by him once a month, while the others, passed as normal on admission, were encouraged to report for examination if they suffered any local symptoms. The subsequent history of every patient was traced by an annual inquiry.

As the sanatorium at Midhurst is intended for those who can pay something for their board and treatment, but not for those who can afford private institutions, the patients belonged neither to the wealthy class nor to the manual workers. They were largely composed, both males and females, of clerks, typists, school-teachers, post-office and bank employees, with a sprinkling of clergymen, doctors, officers, and their families.

During the ten years from July 1st, 1911, to June 30th, 1921, the larynges of 2,541 patients were examined; tuberculosis was found in the larynx in 477, or 18.77 per cent.; the ratio in the two sexes was almost exactly the same—namely, 18.50 per cent. in men and 19.11 per cent. in women.

Other workers have found a much higher proportion of cases of tuberculosis of the larynx among advanced cases of pulmonary tuberculosis. Thus, Pottenger found that 50 per cent. of advanced cases of pulmonary tuberculosis showed some invasion of the larynx; Percy Kidd found in the *post-mortem* room at the Brompton Hospital that the larynx was affected in 50 per cent. of all cases; and Hartley, in the same institution, found the proportion of laryngeal cases to be 52.6 per cent. It may be suggested, therefore, that Sir StClair Thomson must have had to deal with comparatively early cases during those ten years at Midhurst. On comparing his statistics published in another inquiry nine years ago with those now published, he makes the definite suggestion that laryngeal tuberculosis appears to be becoming less frequent, although he points out that this will have to be verified over a longer period and by other observers. This suggestion agrees with what is already known of the waning frequency and virulence of tuberculosis in general.

The frequency with which the larynx is invaded by tuberculosis increases, as is well known, with the progress of the pulmonary disease. Adopting the Turban-Gerhardt classification, with three groups, Sir StClair Thomson finds that of 636 patients in Group I the larynx was invaded in 31 instances, or 4.87 per cent.; in 1,169 patients in Group II the proportion of laryngeal cases increased to 214, or 18.3 per cent.; and in Group III in 736 patients the proportion of laryngeal cases was nearly double—232, or 31.52 per cent. The lesson of these figures is obviously that to avoid tuberculosis of the larynx pulmonary cases must be recognized early and treated promptly.

Region of Larynx Affected.

As regards the region of the larynx attacked, it has hitherto generally been thought that, while syphilis may attack any part of the larynx, cancer and tubercle are met with much more commonly round the posterior segment of the glottis than in the anterior part. Sir StClair Thomson showed a few years ago (BRITISH MEDICAL JOURNAL, 1921, vol. i, p. 921) that as regards intrinsic cancer of the larynx this is an error, and that cancer is more prone to attack the middle or anterior third of the vocal cords. As regards tuberculosis, however, by a careful record and tabulation of the 477 laryngeal cases he confirms the already established view; the interarytenoid area was invaded in 231 cases, the arytenoids in 117, and the vocal processes in 132; in other words, the posterior glottic area showed 480 lesions—the figures are of local lesions, not of cases, several areas on both sides being often invaded.

It is pointed out that a persistent laryngeal catarrh may be the forerunner of definite tubercle, and such cases should be kept under observation; thus one patient on admission showed only a little velvetiness over one vocal process, and

[1] *Tuberculosis of the Larynx: Ten Years' Experience in a Sanatorium.* By StClair Thomson, M.D., etc. Medical Research Council. Special Report Series, No. 83. H.M. Stationery Office, or through any bookseller. (Pp. 91; 8 plates. Price 2s. 6d. net.)

two months elapsed before this developed into a definite pinkish ulcerating deposit. Tilley has pointed out that many of the early and milder symptoms of tuberculosis of the larynx, such as voice fatigue, frequently occurring attacks of aphonia, vague feelings of discomfort, and irritation, may be due to the presence of the bacilli in the tissues, and such symptoms should always be regarded with suspicion when they occur in a patient with established signs of tuberculosis. The observations of Sir StClair Thomson tend to prove that the neighbourhood of the posterior commissure of the larynx must be carefully scrutinized for the earliest symptoms of tuberculosis. The surface of the interarytenoid region is, in the majority of cases, the favourite site, and even the smallest irregularity, or the slightest abrasion there, should raise suspicion and demand minute and repeated examination. Even when the disease invades, or is most marked in, the anterior section of the larynx, there is frequently some change in the interarytenoid region. It is important to recognize the laryngeal catarrh which is not uncommon in a patient with pulmonary tuberculosis, for unless the possibility of this local catarrh being secondary to a pulmonary lesion is not kept in mind a true diagnosis may not be made and valuable time wasted with merely local treatment. When the lesions in the larynx are no longer limited to the interarytenoid region and the vocal cords, the case ceases to be an early one; a description of the advanced conditions can be found in most of the works on the subject written in pre-sanatorium days, and such cases are held to be unsuitable for sanatorium treatment.

Sir StClair Thomson points out that although in many cases the appearance of the larynx is, to the trained eye, characteristic, in some quite early cases there may be many difficulties in diagnosis. When the confirmatory signs fail a diagnosis of a tuberculous lesion may be strengthened by employing methods or tests such as the Wassermann reaction, which assist in excluding any other possible etiological factor. The chief difficulties of diagnosis arise when all confirmatory indications fail and when the lesion is limited to one vocal cord. Sir StClair Thomson suggests that in most of these cases careful watching and repeated examinations will generally settle the diagnosis, while some delay will do little or no harm—certainly not so much harm as a precipitate and possibly unsatisfactory attempt to secure a suitable portion of the diseased larynx for microscopic examination.

Prognosis.

The prognosis in pulmonary tuberculosis is, as is well known, difficult, and on occasion surprisingly wrong. It is still more difficult when the larynx is invaded, for then, in addition to other general considerations, the extent and character of the lesion in both the chest and throat have to be considered, compared, and judged, separately and in combination. Sir StClair Thomson's opinion is that the prognosis depends on (*a*) the pulmonary condition, (*b*) the general reaction, (*c*) the site of the laryngeal lesion, and (*d*) its extent and type. As regards (*a*) and (*b*) there must also be considered the previous history, the family history, any underlying disease, such as syphilis or malaria, the age and the mentality of the patient. Other factors are early diagnosis, prompt treatment, and the economic possibility of prolonged treatment and after-care.

As regards the duration of life with unhealed tuberculosis of the larynx, Morell Mackenzie stated some fifty years ago that very few patients lived more than two years and a half, and very few died before six months. Since the introduction of sanatorium treatment the span of existence, even with an unhealed lesion in the larynx, has been very much increased. Sir StClair Thomson quotes the case of a man treated by the application of lactic acid and the galvano-cautery who has had tuberculous disease of the larynx for fourteen years, and, although it is still unhealed, he is to-day carrying on his occupation as a post-office clerk; there is little doubt that had this patient been kept under prolonged treatment at first the larynx would have entirely healed. It is cases like this, with a natural tendency to endurance (Sir StClair Thomson observes), that often find their way into the records of brilliant results claimed for some new method of treatment.

Treatment.

The effects on a diseased larynx of the sanatorium life are remarkable. As Sir StClair Thomson says, those who can recall the appearance of tuberculous laryngitis in an out-patient clinic twenty-five years ago, and the hopeless efforts to ameliorate them, must be struck by the improvement, up to a certain point, which is wrought simply by the sanatorium principles of unvitiated air, regular rest and exercise, abundant and suitable food, and constant medical supervision. To these may be added, when the larynx is involved, the cessation of tobacco and alcohol, diminution or absence of use of the voice, and the control of useless cough. Sir StClair Thomson says that he has no customary or regulation sprays, insufflations, injections, inhalations, or paints for tuberculous laryngitis. In the uncontaminated air the larynx becomes so clean under the general conditions that these local measures are seldom called for and might be injurious. The local measures which he employs are only used for the treatment of symptoms, the chief of which is cough.

The treatment of laryngeal tuberculosis must be based on the assumption that it is but a complication of the original tuberculosis in the chest. In addition, however, to the systematic treatment of an open-air sanatorium there are three special methods—namely, (*a*) silence, (*b*) whispers, and (*c*) the galvano-cautery. As is well known, Sir StClair Thomson was one of the first to point out the therapeutic value of voice rest. This method is strongly indicated in all recent and acute cases of laryngeal tuberculosis; chronic and old-standing cases, even when limited to the margins of the glottis, appear to do as well under whispers. Sir StClair Thomson states that he has seldom prescribed silence for more than six months, for if not healed by that time the case is not going to clear up straight away, and if other conditions are favourable the use of the galvano-cautery then promises a speedier cure. In the 67 patients for whom strict silence was prescribed by Sir StClair Thomson, the following results were obtained: 23, or 34.3 per cent., were cured, 1 was much improved, 19 were improved, 16 left the sanatorium *in statu quo*, and 8 were worse. The 23 cures were obtained in a total of 477 laryngeal cases, a proportion of 4.8 per cent.

Of the 477 cases, 336 had no special treatment beyond being required to speak only in whispers. This alone led to a cure in 50 cases, or an average of 14.8 per cent., 12 were much improved, 84 were improved, no benefit was obtained in 168, and in 22 local conditions became worse. It was, of course, for the more advanced and less hopeful type of case that whispering was prescribed.

Sir StClair Thomson employs a cautery with a fairly sharp-pointed platinum tip, the object being to penetrate swiftly through the margin of the diseased area so as speedily to reach the deeper, healthier area. The object is not, as is often thought, to burn away the diseased tissue, but to stimulate inflammatory and limiting fibrosis in the circumambient healthy area. Of the 477 cases in whom tuberculosis was found in the larynx during ten years, 74 were thought to be suitable for treatment by the galvano-cautery and a cure was obtained in 46 cases; in addition, 3 were much improved and 22 improved, while in no single case was the local condition aggravated by the treatment.

To sum up the results of Sir StClair Thomson's methods of treatment at Midhurst, of the 477 cases of laryngeal tuberculosis 23 recovered with strict silence, 50 on whispers, and 46 were arrested by the galvano-cautery. This gives a total of 119 cures, or 24.9 per cent., from all three methods combined, which, compared with previous records, is a result which must be very encouraging. As half the cures were obtained without local medication or any specific treatment, it may be hoped that new therapeutic measures may soon be forthcoming to stimulate further this tendency to spontaneous healing under hygienic conditions. In the past work of much scientific and clinical value in the realm of laryngology has been done by the combined efforts of physicians, surgeons, and laryngologists. The brighter future for sufferers from tuberculosis of the larynx revealed in this masterly report by Sir StClair Thomson on a disease which in the not far distant past has been looked upon as hopeless may well act as a stimulus to such efforts.