Remarks

ON

THE THERAPEUTIC VALUE OF COMPLETE VOCAL REST DURING THE SANATORIUM TREATMENT OF LARYNGEAL TUBERCULOSIS.*

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THE idea to employ complete vocal rest as a remedial agent in the treatment of laryngeal tuberculosis is not new. As far back as 1887 Professor Moritz Schmidt of Frankfort, when warmly recommending tracheotomy in cases of laryngeal tuberculosis, stated that "the rest afforded to the larynx" probably was the most effective element in obtaining success by this method.† It is true that Schmidt strictly differentiates between "quiescence of the larynx" and "mere vocal rest." On this point he expressly states in the third edition of his excellent textbook:

"As a matter of fact it is extraordinary that after tracheotomy the tuberculous disease often disappears without further treatment. Very likely one has to regard in the very first place the quiescence of the larynx as the effective element, and in addition the prevention of dust and bacterial infection. Mere quiescence without tracheotomy I have very often obtained in the case of reasonable patients, who did not speak a syllable for months. Complete silence alone, however, is not so surely effective as tracheotomy."

Now, I wish to state expressly that nothing could be further from my intention than to assert that mere long-continued vocal rest was an infallible remedy in laryngeal tuberculosis. I have myself repeatedly seen proofs to the contrary. Nevertheless, the time seems to have come to recommend this method for repeated testing under exceptionally favourable conditions, that is, during the sanatorium treatment of pulmonary tuberculosis complicated by tuberculous laryngeal manifestations.

Whilst I do not doubt that in former years, as stated by Schmidt, a number of patients, suffering from laryngeal tuberculosis, who were endowed with unusual strength of will, and were living under exceptionally favourable conditions, have succeeded in preserving silence for months, insuperable difficulties, according to my own experience, oppose themselves to a general employment of this method under the conditions of ordinary life. The claims of their calling in men, of their domestic duties in women; the characteristically sanguine temperament of most phthisical patients; the absence of constant supervision by a medical man; the unreasonableness of many so-called friends of the patients, who in spite of all warnings tempt them time after time to use their vocal organs—all these are very weighty factors, which in most cases are likely to make real vocal rest lasting through months illusory. Such at least has been my own experience in former times, and the confessions of repentant patients, as well as the statements of relatives, have made me rather sceptical whether, even in cases in which apparently complete vocal rest had been obtained for some length of time, the assurance that my advice had been conscientiously followed actually corresponded with the facts. At any rate, I do not remember that in former years I have ever seen a really convincing proof of the usefulness of complete and lasting silence in laryngeal tuberculosis, and though my own belief in the efficiency of genuine and persevering vocal rest remained unshaken, I ultimately, seeing the undeniable difficulties of strict observation of complete silence under the conditions of daily life, limited myself to merely recommending patients to spare their vocal organs as much as possible.

Recently, however, a very powerful ally has arisen to the silence-cure through the greater generalization of the

sanatorium treatment of pulmonary tuberculosis. The prejudice of the public against this, which only a few years ago was often very difficult to overcome, and not rarely could not be overcome at all, has given way to a better understanding of the situation, and particularly the early stages of the disease have profited from this better knowledge. Patients nowadays are ready to drop all other considerations and to live for three or four months for their health only. With this many of the difficulties all of a sudden disappear which formerly militated against the observance of really complete voice rest. The consumptive who makes up his mind in an early stage of his disease to leave his family and his profession for several months—not for the purpose of finding in the south, in addition to health, change and amusement, but in order to live for his health only under the severe discipline of a sanatorium—takes his illness seriously from the first, and is ready to submit even to irksome regulations in order to regain his health. When he enters the institution not only the necessity but usually also the temptation ceases to needlessly use the vocal organ which is in want of repose. Other obnoxious influences—such as irritation of the air passages by dust, tobacco, unsuitable food and drinks—can be entirely avoided. Causes for fresh congestion of the larynx from unsuitable clothing, late hours, staying in badly-ventilated rooms, are altogether prevented, and, above all, the patient finds in the constant superintendence and encouraging advice of the physician in charge of the sanatorium a most valuable help in the persevering observance of undoubtedly very tedious and depressing silence. Owing to all these circumstances the quiescence of the vocal organ becomes a reality, and the results, according to my experience, are in many cases much more pleasing than they could be under less favourable external conditions.

True, one must not approach the method—I wish to emphasize this again—with exaggerated expectations. It is neither absolutely certain nor indicated in all cases of laryngeal tuberculosis, nor is its exclusive use sufficient in many instances in which it may be advantageously employed. I rather look upon it as a very valuable help-mate which, although it might in some cases render local treatment superfluous, is not at all intended to altogether do away with the latter. On the contrary, in more severe cases a combination of the two methods will often produce excellent results.

I consider complete vocal rest particularly indicated in cases of inflammatory irritation of the larynx in pulmonary tuberculosis, especially in obstinate catarrh of the larynx, congestion of the vocal cords, relaxation of the ventricular bands, and—in more advanced cases—in circumscribed ulceration of the vocal cords, ulceration in the inter-arytenoid fold, general infiltration, and in impeded movements of the crico-arytenoid articulation. But I do not expect anything of it in those hopeless cases of the last stage in which the whole larynx has become a prey to deep ulceration and partial perichondritis, and I do not conceal from myself that, in a number of cases in which one had from former experience been entitled to hope that it would prove useful, the result is disappointing.

Nor can it be denied that even during the stay at the sanatorium the method is very irksome for the patient. Seeing that anyhow—especially at the commencement—the stay at a sanatorium acts rather depressingly upon many patients, this state of matters is further increased by the curtailment of intercourse with other patients, which is inseparable from the employment of the method. Even strong-minded patients have told me that they had needed their whole reserve of energy in order to strictly preserve complete silence for a long time. Much depends in this connexion upon the temperament of the patients; much also upon the question whether by chance they are together with reasonable or with unreasonable patients in the sanatorium. Concerning this point I have heard diametrically opposed statements. Whilst one lady patient told me that she had been supported and most sympathetically encouraged by her companions in distress in preserving complete silence for many months, another very energetic patient, whose severe laryngeal tuberculosis has now for years been arrested by means of the silence method combined with local treatment, told me that nothing had rendered his undertaking so difficult as the unreasonableness of other patients in the sanatorium, who had time after time endeavoured to tempt him to talk. It

* Being the substance of a paper read at the meeting of the Berlin Laryngological Society on November 16th, 1906.

† In the discussion following the reading of this paper Dr. Lublinski claimed that he too had recommended complete vocal rest in the treatment of tuberculosis as far back as 1887. Whilst willingly registering this fact, it seems hardly necessary for me to point out that this paper was not intended to give a full historical retrospect of the whole question, and that its only purpose is to emphasize the value of complete silence in certain cases of laryngeal tuberculosis during sanatorium treatment.

is here that the task of the physician to the sanatorium begins. If he will take the trouble to help his patient to successfully go through his difficult ordeal by means of suitable arrangement of the patient's daily life, by prescribing solitary walks, by suitably placing the patient who is to be silent between two other reasonable patients at the common meals, and by instructing the other patients accordingly, he will be able to do very much to lighten the disagreeableness of the method.

I must be prepared for the question whether the results of such religiously-maintained and long-continued silence are worth the difficulties and unpleasantnesses of the method emphasized by myself. In reply to this question I am able to state that in quite a number of cases in which it was employed, either alone or combined with suitable local treatment, the results were such as in former times I have hardly ever observed. Obstinate inflammatory irritation, which had defied every local treatment, disappeared; infiltration, if not too much developed, receded; isolated ulcers on the vocal cords, the ventricular bands, and in the interarytenoid fold lastingly healed, and even motor disturbances in the crico-arytenoid articulation improved, or in a few particularly favourable cases entirely gave way to a return to normal conditions.

I am further able to state that the cure or improvement in quite a number of these cases has remained a lasting one, as I have been able to convince myself by examination a long time after the end of the treatment. Surely these are pleasing results. On the other hand, as already stated, I have not entirely escaped disappointment. In the majority of my cases, however, in which the method was strictly enough and long enough persevered with, the results have been distinctly encouraging.

I wish, however, particularly to warn against being too easily discouraged by apparent want of success at the commencement of the treatment or by occasional slight relapses. Perseverance is never more required than during the silence-cure of laryngeal tuberculosis.

The total number of my cases is not large enough to form from them a final opinion, but they entitle me, I think, as the following cases will show, to recommend the method for further trial.

CASE I.

Mr. L. C., aged 29, consulted me on November 14th, 1900, on account of obstinate pharyngeal and laryngeal catarrh, from which he had been suffering for several months past, and which had been aggravated by influenza. There was nothing characteristic of tuberculosis in the appearance of the parts named. The fauces, pharynx, and vocal cords were considerably congested, the latter somewhat relaxed, but there was no evidence of any graver mischief. The obstinacy of the huskiness, however, and the history of frequent cough, together with a somewhat hectic flush, which developed during our interview induced me to examine the chest, when I found dullness in front and behind over the apex of the right lung, together with prolonged harsh expiration in the right first intercostal space and some crepitation after coughing in the same locality. His expectoration was examined by Mr. Shattock, who found tubercle bacilli in every preparation, although not in very large numbers. In consultation with Sir Thomas Barlow and Dr. Howard Barrett, it was decided to send the patient to the Cotswold Sanatorium under the care of Dr. Braine-Hartnell. No local laryngeal treatment of any kind was employed.

At the sanatorium a suspicion was entertained that there might be a syphilitic element in the case, as occasionally white patches appeared on his uvula. At no time, however, either then or later, could I convince myself as to the co-existence of syphilis with the tuberculous pulmonary process, which was undoubtedly then present. Nevertheless, a course of mercurial inunctions was instituted as a matter of precaution whilst he was at the sanatorium. No definite results followed this treatment.

On March 7th, 1901, I saw the patient again, and found very great improvement. He had gained 18 lb., the tubercle bacilli, although not entirely absent from the sputum, were gradually disappearing, auscultation showed only slight crepitation, and this only after coughing, at the right apex, and the larynx was somewhat less congested than when the patient had gone to the sanatorium.

On April 30th, 1904, I received a letter from Dr. Burton of Cromer concerning my patient, whom I had meanwhile lost from view for several years. He reported that he had seen an ulcer on the posterior third of the right vocal cord, and that the rest of the cord in front was irregular, and red in appearance. The left vocal cord opposite the ulcer on the right vocal cord was swollen. No other sign of disease was present in the larynx, but Dr. Burton, knowing the history of the case, did not doubt the tuberculous nature of the ulcer on the right

vocal cord. At the same time Dr. Burton's brother, Dr. F. B. Burton-Fanning of Norwich, wrote to me that he had watched the patient closely for the last three years, during which time he had been a patient in the Mundesley Sanatorium. During this time his general health had remained at one level, and until lately no unsatisfactory symptoms had been shown. The pulmonary affection had remained stationary since I had last seen him, suggesting infiltration with much fibrosis. About two months ago his evening temperatures had become less satisfactory, above 99°, and he had lost 7 lb. in weight. With very strict rest and feeding the temperature gradually resumed its usual level below 99°; the weight was regained all but 1 lb. There were then no laryngeal symptoms, and the slight fever was attributed to increased toxæmia. The present hoarseness came on only a week after the subsidence of the temperature.

When I saw the patient on April 30th, 1904, I found that he had, generally speaking, remained much *in statu quo*, and that the old fibroid condition in the right lung had not changed. With regard to the larynx matters were less satisfactory. The right vocal cord was in a condition which almost amounted to papillomatous degeneration, whilst the posterior part of its inner aspect was distinctly ulcerated. Its movements also were somewhat impeded. The left vocal cord was slightly swollen and superficially eroded, but moved freely. The rest of the larynx was clear. I strongly recommended immediate and energetic local treatment, consisting in curetting of the right vocal cord, and applications of strong lactic acid to both. This being agreed to, I twice curetted the ulcer on the right vocal cord, and followed this up with application of 50 per cent. lactic acid solution. Cicatrization took place more rapidly than could have been hoped for, and the irregularity still seen on May 11th, 1904, on the right vocal cord represented merely scarred tissue resulting from the ulceration and curetting. The patient was now strongly advised to rest his voice completely, not to go motoring, not to smoke, and, in fact, to avoid every possible form of irritation. One month later, unfortunately, again a distinct formation of granulations was seen on the right vocal cord, where only a few weeks previously the surface had been more or less even; 50 per cent. lactic acid was again applied, and the patient dismissed with renewed strong recommendations as to complete silence. This time the patient obeyed my injunctions most strictly, and when after an interval of nearly two years I examined him again, on June 11th of the present year, I had the pleasure of seeing that the ulceration had completely healed, and that its place was taken by a distinctly visible scar on the right vocal cord, which was at the same time a good deal more mobile than it had been when I had last examined the patient. He told me that he had religiously stuck to the order of complete silence. With most praiseworthy energy he had withstood all temptations to use his voice, trying though this had been, and had for more than a year's time conversed with the outer world only by means of little notes which he had jotted down whenever there had been any need for communication. The laryngeal improvement was quite independent of the condition of his general health, inasmuch as the state of his right lung had undoubtedly not been so satisfactory of late, and as he had had an attack of pleurisy. On examination I found marked consolidation of the upper part of the right lung, with a good deal of pleuritic friction in both clavicular regions.

Wishing to bring the case quite up to date, I wrote a few days ago to Dr. Burton-Fanning, asking him to tell me how the patient was getting on, and received the following reply:

"October 22nd, 1906.

"As regards his laryngeal condition, Mr. C. could not be better. From the time of your operation there has been nothing but uninterrupted progress in the right direction. I do not think he has suffered consciously or otherwise from his larynx for the last two years. I examine it periodically; for the last year its condition has been the same; there appears to be less loss of structure of right vocal cord, as if some regeneration had occurred; anyhow there is some movement in phonation of what remains of the cord. Otherwise the larynx is normal.

"It may interest you to know that he was absolutely silent from May, 1904, to January, 1905; then he began whispering, but did not talk till June, 1905. Since then he has talked reasonably and without trouble. So strict was he about not even whispering during the first eight months, that he used to take his writing tablet to bed with him in case, as he said, he might want to talk in his sleep. His pulmonary condition is not so satisfactory; breaking down is occurring in right lung, and for the last year and a half there has mostly been slight evening fever—about 100°. He absolutely lives in bed in a shelter, and is very happy."

CASE II.

Mrs. C. Sent by Dr. Theodore Williams on December 19th, 1902, with a letter in which he stated that the case was "one of lung tuberculosis, following slight pleuritic effusion (which was never aspirated) seven years ago, and large hæmoptysis in August last in India. Hoarseness began in the middle of July, after the hæmorrhage (August) dysphagia appeared, and though less, is present now."

He further stated that there was a cavity in her right lung, but that the throat symptoms were by far the most trouble-

some. The patient was about to become an inmate of the Linford Sanatorium under Dr. Felkin's care.

On examination I found a very bad case of laryngeal tuberculosis. There was enormous infiltration of the mucous membrane over both arytenoids with a small ulcer just in the middle of the interarytenoid fold. The front part of the right vocal cord was superficially ulcerated, the left cord was congested, and the left ventricular band swollen. The difficulty in swallowing was obviously due to the enormous infiltration of the posterior wall of the larynx. I advised that at present no local treatment should be had recourse to, as I was afraid that any application to the posterior wall of the larynx would increase the ulceration, and make matters worse. On the other hand, I suggested complete rest of the voice, swallowing food in the horizontal lateral position, a Leiter's coil with ice-water round the neck. Should the ulceration increase, I advised that curetting and applications of lactic acid followed by insufflations of anaesthesia or orthoform should be resorted to. In view of the laryngeal condition just described, the prognosis certainly appeared to be very serious.

On February 24th, 1903, I saw the patient again. She had with rare energy strictly followed the rules laid down for the treatment of her case. There was still a good deal of swelling over the arytenoid cartilages and their neighbourhood, but the condition compared to what it was just two months previously showed a very pleasing improvement. The infiltration had considerably diminished, and no actual ulceration was seen going on on the right vocal cord. She could swallow with much greater ease than was the case on her admission into the sanatorium, and had gained fully a stone in weight. The lungs had remained *in statu quo*.

I suggested that she should stay at least another six weeks at the sanatorium, that the rigidity of her silence should now be slightly relaxed, and that she might attempt to take fluid food in the natural position. The patient, however, was so anxious to get well, that she spontaneously preferred to be still absolutely silent, and to take her food in the lateral horizontal position.

On May 30th, 1903, Dr. Felkin reported that Mrs. C. had gained in weight 1 st. and 12 lb. altogether, that the signs of disease in the lungs had not greatly altered, although the right apical cavity was somewhat drier, and that the larynx had generally improved, there being less swelling, less congestion, and no longer any interarytenoid ulceration. The vocal cords, he stated, were both less injected, especially the left. She now walked more than she had done, often from a mile to a mile and a half daily, and frequently ate dinner at the general table. She still drank all fluids in the lateral horizontal position but took ordinary solid diet—that is, she had no minces now. There was very little cough and expectoration. A Leiter's tube was still used externally, whilst a little menthol and boracic powder were three times daily insufflated.

On May 5th, 1903, I had the opportunity of confirming Dr. Felkin's statements about the pleasing improvement which had taken place. There was much less general swelling in the larynx, the interarytenoid ulceration had quite disappeared, the right vocal cord was granular. Corresponding with this objective improvement the voice was a good deal stronger than it had been, although it was still rather weak. Whilst now hoping that complete cicatrization and further diminution of the swelling would be obtained, I still thought it most desirable that she should give her larynx for some length of time as much rest as possible.

On July 3rd there was still a certain degree of infiltration over the arytenoids; both cords looked red and somewhat granular, and there was a distinct longitudinal cleft to be seen in the left one. Compared with the condition when I had first seen it, there certainly was a very noticeable amelioration; but I must confess that I should have anticipated the improvement, after six months' stay at the sanatorium and strict observance of the régime, to be greater. I suggested that a weak spray of sulphate of zinc (10 gr. to the ounce) should twice daily be applied to the larynx, and that externally a weak faradic current should be used over the crico-thyroid muscles, whilst at the same time voice use was still to be considerably restrained.

The patient at this time left the Linford Sanatorium and went to the Mundesley Sanatorium in Norfolk. After a month's stay, during which the suggested treatment was regularly carried out, Dr. Noel Bardswell reported continued improvement, both with regard to her general health and to her larynx, the voice being a good deal stronger than it was at the time she entered the sanatorium.

On August 11th, 1903, I was able to corroborate this by personal examination. I advised her to go on a little longer with the zinc spray, faradization, and moderate voice use.

On October 20th, 1903, the improvement was still continued. No actual ulceration was visible anywhere in the larynx. There was still some swelling over the arytenoids. On the whole, however, the improvement was very marked, and the voice better and stronger than ever before.

On December 12th, 1903, when I saw her again, she was very much depressed because her voice had been weaker meanwhile. In reality, however, the larynx looked better than ever before, having practically returned to normal condition. I spoke encouragingly to the patient, and suggested to Dr. Theodore

Williams that she should go on as before, and be as much as possible in bracing air.

On January 26th, 1904, I saw her again. She had recently had a general cold, and with this the left ventricular band had become swollen. Her voice was correspondingly a little more husky than it had been, but the whole larynx had kept wonderfully well, and there was no actual ulceration anywhere. I quite approved of her going to Montreux, but advised to discontinue astringent sprays and indeed any local treatment.

I saw her again in August, 1904, when her larynx had entirely healed, and the patient who at first had seemed to be in a very serious condition indeed, could be allowed to return to India.

Curiously enough, this patient, whom I had not seen for 2½ years, came just whilst her case was being prepared for publication to-day (October 24th, 1906). She told me that after her return to India she had had a smart attack of pleurisy on the left side, which her doctors in India had not considered to be tuberculous, and which had cleared up completely. This, however, was followed by persistent night sweats and loss of weight. She came back to this country, and has since been living at Eastbourne. Her voice, without any other laryngeal symptoms, became somewhat weak and husky again in the course of the present year, but the trouble was so insignificant that she took little notice of it. Early in September, however, she had a smart hæmorrhage, which she attributed to her throat. Dr. Fraser, of Eastbourne, put her to bed and fed her with cold food for several days. The attack passed completely over without her temperature having been raised at all. The patient, however, began to experience the old feeling as if the inside of her throat were swollen. This induced her to consult me to-day. Since I last saw her she had lost exactly 1 st. in weight. She looked well, but was a little thinner than when I had last seen her, and her voice certainly was somewhat weaker and slightly husky. On examination it was seen that the mucous membrane over the arytenoids was again slightly infiltrated, and there was a small, somewhat oedematous-looking projection in the interarytenoid fold. The amount of infiltration, however, was incomparably smaller than it had been nearly four years ago. There was no ulceration anywhere in the larynx, the left vocal cord was very slightly congested. Certainly there was no evidence that the hæmorrhage which occurred in September had come from the larynx. The condition of the lungs was very little changed since I last had seen her. Occasionally after coughing there was slight crepitation in the right apex, where the signs of the cavity continued otherwise unaltered.

A consultation was held with Dr. Theodore Williams, and it was decided that the patient should go again to the Linford Sanatorium, with a view of preserving complete silence for a while, of being fed up, and of having tuberculin injections under the control of the opsonic index, should the latter be below the normal.

CASE III.

Mrs. B., aged 40, was brought to me on May 12th, 1904, by Sir Thomas Barlow on account of long-standing but slight hoarseness. She had been very ill two years previously with right-sided pleurisy. At that time her voice was not affected, but had gradually become so recently. On examination, abductor paralysis of the right vocal cord was found; the cord otherwise appeared healthy. The left vocal cord was much swollen and superficially eroded; its movements were free. There was absence of any definite change in the lungs, but the condition of the larynx was very suggestive of tuberculosis. I was inclined to explain the paralysis of the right vocal cord by the right recurrent laryngeal nerve having been caught either in pleural thickening following the acute pleurisy, or in some enlarged bronchial gland, whilst the condition of the left vocal cord was suggestive of actual tuberculous infiltration of the part. Sir Thomas Barlow and I agreed that her sputum should be repeatedly examined, and her temperature and weight taken, whilst at the same time she was to give her voice complete rest for a month's time whilst staying at Bournemouth.

The examination of the sputum confirmed my diagnosis, a small number of tubercle bacilli being found on each occasion when the expectoration was examined. The patient having meanwhile preserved complete silence, on June 6th, when I examined her again in conjunction with Sir Thomas Barlow, a slight return of mobility of the right vocal cord was noted, and the congestion and erosion of the left cord were distinctly diminished. On the other hand, on examination of the chest occasional distinct crackling and wheezing were heard posteriorly on the right side over one limited spot, just corresponding to the angle of the scapula. The patient adopted our advice, namely, to go to the Cotswold Sanatorium. No local treatment to the larynx was to be instituted, but perfect silence was insisted upon.

On July 27th, the patient having observed complete silence for two months, the movement of the right vocal cord was again distinctly better, and the ulceration of the left cord had quite disappeared, but the cord was still much congested.

On November 11th Dr. Etlinger reported that the patient had made good progress in every way, although the voice was not strong yet. He had allowed her to make use of it in moderation, and had applied electricity over the crico-thyroid muscles. When I saw the patient on the 16th of the same

month I was glad to find that the mobility of the right vocal cord had been quite restored, and that the only remnant of her laryngeal complication was slight congestion of the left vocal cord.

On May 23rd, 1905, the larynx was perfectly normal, but the voice was still a little weak.

I saw her again in May of the present year, when the larynx was *in statu quo*. Since then neither Sir Thomas Barlow nor I have seen the patient.

This lady has been throughout, as Dr. Etlinger described her, "a model patient," obeying most strictly the rules laid down for her.

CASE IV.

Mr. W., aged about 40, was sent to me by Dr. Etlinger on January 19th, 1905. He had been an inmate of the Cotswold Sanatorium for nearly two months on account of consolidation of the apices of both lungs. Previous to his coming to the Cotswold he had been suffering from periodical attacks of loss of voice, which during his stay at the sanatorium had been weak and occasionally husky. Dr. Etlinger had observed general congestion of the larynx, most marked on the left side, and recently there had been distinct hyperaemia of the left vocal cord, with some deficiency of movement on that side, whilst the right side had been practically normal. As this unilateral condition had persisted, Dr. Etlinger had thought of the possibility of tuberculous infiltration, and had recommended Mr. W. to consult me.

On January 23rd, 1905, when I examined the patient, I found the condition, both in the chest and in the larynx, exactly as described by Dr. Etlinger, namely, some consolidation, particularly of the right apex, with a good deal of dullness, and the same in a lesser degree in the left apex. In the larynx there was congestion of the left ventricular band, with distinctly diminished mobility and considerable congestion of the left vocal cord. There was nowhere any ulceration of the larynx. I thought that the deficient mobility might be due to tuberculous infiltration in or around the left crico-arytenoid joint, or to pressure of an enlarged bronchial gland upon the recurrent laryngeal nerve. The former hypothesis seemed to be more likely to be correct in view of the coexisting congestion of the parts. The patient was about to become an inmate of the Ringwood Sanatorium, and I strongly advised him to keep complete vocal rest for a month, after which time I wished to see him again. No local treatment seemed to be indicated.

On February 22nd Dr. Felkin reported that the patient had kept silence most strictly. The congestion of the left vocal cord had become much less evident, but movement was still hardly perceptible at all, and the swelling of the ventricular band had remained the same. Tubercle bacilli had been found in the sputum.

When I examined the patient again, on February 24th, the mobility of the left vocal cord was, if anything, slightly better than it had been a month previously. I strongly recommended continuation of the system of silence.

I saw Mr. W. again on June 16th, 1905, when I found a very satisfactory condition both with regard to his larynx and the physical signs over his lungs. The mobility of the left vocal cord had gradually improved, and the cord was now only very slightly congested. In the lungs no trace of actual mischief was discovered, but there was still a considerable quantity of expectoration, and the temperature got up after every bodily exertion. The patient had kept his weight.

On June 21st Dr. Felkin reported that his sputum had again been examined, and that the quantity of tubercle bacilli had sensibly diminished.

On November 6th, 1905, I found the patient getting on very well indeed. The movement of the left vocal cord had been practically restored, and there was no trace of actual mischief in his chest. He was going to St. Moritz.

On July 12th of this year, I saw him again and found him practically well in all respects.

CASE V.

Miss S., aged 30, consulted me on July 15th, 1903, on account of great dryness in the throat and pain after singing. She was markedly anaemic, and had much-developed dry pharyngitis. She spontaneously stated that she was much troubled with micturition, that she passed a much larger quantity of water than previously, and that she had lost a good deal of flesh. Examination of her urine showed neither albumen nor sugar. The specific gravity was 1015. Tonics and salt-and-water spray were given and singing encouraged.

I then heard nothing of the case until March 19th, 1904, when Dr. Middlemass Hunt wrote to me that he had seen the patient in December, 1904, on account of cough and discomfort about her larynx. He had found an ulcer extending over the whole of the right ventricular band, but without any swelling or infiltration of any other part of the larynx. He considered the lesion to be tuberculous, and got Dr. Barr of Liverpool to examine her chest. He found slight catarrh of one apex, and on the sputum being examined abundant tubercle bacilli were discovered. For a few weeks Dr. Hunt carried out local treatment of the larynx, lactic acid and menthol being applied, but no improvement resulted. It was then decided to send her to a sanatorium, but a severe attack of herpes prevented this.

On March 21st, 1905, I examined her again, and corroborated

Dr. Hunt's statements with regard to the condition of the larynx. In the chest I found only insufficient entry of air into the right apex and slight harshness of breathing over that apex posteriorly. I quite agreed to her going to the Linford Sanatorium, and recommended complete vocal rest as the only form of laryngeal treatment to be adopted for the present.

I saw her again, together with Dr. Felkin, on May 2nd, 1905, when, to my regret, I found that, although the patient had kept silence regularly, the ulceration of the right ventricular band, so far from subsiding, had a little extended to the lower surface of the epiglottis on the same side. The pulmonary symptoms had remained *in statu quo*, and the patient had gained about 5 lb. in weight. It was decided to scrape the ulcerated part and to apply strong lactic acid to it.

I saw the patient again on July 20th, 1905, with Dr. Felkin, when the ulceration on the ventricular band, which had repeatedly been curetted and touched with pure lactic acid, at last showed signs of improvement. The condition of the epiglottis on the right side had hardly changed at all. I advised continuation of the local treatment, whilst persevering with the vocal rest, and agreed to her going to Scotland for a month's time.

On November 16th, 1905, Dr. Felkin reported that he thought the ulcer on the ventricular band had now healed, but the epiglottic ulceration not yet entirely. Tubercle bacilli had five weeks ago still been present in fair numbers in her sputum. Her general health and weight had improved. She wished to know whether she might talk at all. All local laryngeal treatment had been discontinued for some time.

Two days later I saw the patient, when I was greatly pleased with the progress. There was no actual ulceration either on the right ventricular band or on the ventral aspect of the epiglottis, and actual cicatrization had taken place in that region. I recommended leaving the larynx quite alone, and letting her use her voice naturally, although not excessively. This was the last time I saw the patient, but on October 27th of this year Dr. Felkin reported that she was in a good general condition, and that the laryngeal scars were perfectly sound.

CASE VI.

Miss W., aged 30, was sent to me on November 11th, 1905, by Dr. Felkin with a letter in which he stated that she had been at the Linford Sanatorium for some time with pulmonary tuberculosis affecting both apices, with a moderate amount of nummular sputum, normal temperature, and fairly good general health, that she had been troubled again and again, even before coming to the sanatorium, with slight huskiness and loss of voice, only lasting a day or two, and that after various attacks of congestion of the larynx she had now developed a definite ulcer in the interarytenoid fold with projecting and prominent upper margin, which had evidently started from below out of sight. The development appeared to have been fairly rapid, and he wished to know my opinion as to the treatment. I found an ulcer, as described, on the posterior surface of the larynx with a stalactite-like margin appearing on the inner side of the interarytenoid fold. The fold itself was intact, which explained the absence of cough and of pain in swallowing. I recommended applications of 30 per cent. lactic acid and complete silence. Scraping I did not advise, lest a further breach of surface should be caused by it, giving rise to cough and difficulty in swallowing. I was the more afraid of advising anything too energetic in this patient's larynx, as the crepitation heard all over the right apex gave evidence of still-existing active mischief in that lung in spite of her excellent appearance.

I saw the patient again on December 11th, 1905, when I found distinct diminution of the stalactite-like excrescence in the interarytenoid fold, but there was a little actual ulceration just below it. The results of the lactic acid applications were still visible in the form of whitish patches on the mucous membrane covering the posterior surface of the larynx, and the patient complained a good deal about cough and difficulty in swallowing. I suggested that for a week's time no further applications should be made, and that she should then come to town in order to have the ulcer scraped and pure lactic acid applied to it. This was done, and after her return to the sanatorium Dr. Felkin reported, on January 5th, 1906, that the cough and sputum had diminished. I saw the patient again on January 6th, and was very pleased with the progress she had made. The stalactite-like projection in the interarytenoid fold was replaced by a healthy-looking granular surface, and I advised that nothing further should be done in the way of energetic local treatment, and that only a weak sulphate of zinc solution should be applied to the somewhat congested right vocal cord every second day, whilst gentle faradization was to be used externally over the cricothyroid muscles. I also thought that the silence which had hitherto been rigidly observed might now be relaxed a little.

The granulating process in the interarytenoid fold resulted in the formation of a moderate thickening of that part. The voice improved considerably, as I convinced myself on February 12th. In the chest at that time there was no evidence of actual disease. The patient went for a month to the seaside, but this did not turn out to be a success. She caught a bad cold and had high temperatures, whilst the voice was lost again completely. When I saw her in March the laryngeal mucous membrane was so much swollen that one could not

make out whether recurrence of the tuberculous process had taken place, or whether there was merely catarrhal swelling of the parts. The latter fortunately turned out to be the case, and with a few applications of astrinents and complete rest of the voice the latter gradually returned. I advised renewed silence and again weak astrigent applications to the larynx.

On July 16th Dr. Felkin reported that there had been a recurrence of the ulceration in the parts just below the interarytenoid fold, which were then treated with applications of pure lactic acid on alternate days. This again resulted in healing of the ulceration and great improvement of the voice. When I saw her on July 19th I found nothing abnormal in her larynx with the exception of a very slight pyriform thickening in the interarytenoid fold, and slight general congestion. There certainly was no actual ulceration, and the voice was better than I had ever heard it before. The condition of the chest had very greatly improved by tuberculin injections under observation of the opsonic index. She went, by Dr. Felkin's advice, for a few months to Scotland.

I last saw her on October 23rd of this year, when I found a very pleasing improvement indeed. Although the voice is still slightly husky there is no active mischief in the larynx. The right vocal cord has completely healed, with some loss of substance near the vocal process, where very distinct cicatrization is visible. There is not a trace of the old prominence to be seen in the interarytenoid fold. The state of the lungs is equally satisfactory, there being no active mischief, and only very occasionally slight pleuritic friction-sounds are heard, after coughing, on the right side, both in front and posteriorly. The patient has gained several pounds since leaving the sanatorium, but is returning there for the winter. She is still easily fatigued, and her temperature goes up on exertion.

CASE VII.

Mr. G. H., aged about 40, was sent to me by Dr. Morell Thomas, of Newport, Mon., in December, 1905, on account of long-continued hoarseness. On examination a well-marked ulcer was seen to occupy the posterior third of the right vocal cord, extending nearly to the arytenoid cartilage. The rest of the larynx was congested. The appearances were so characteristic as to enable one to make the diagnosis of tuberculosis from the larynx alone, but there was additionally a history of probably tuberculous hip disease in early infancy, and a history of serous pleurisy on the right side two years ago, whilst recently, during the patient's stay in Switzerland, tubercle bacilli had been found in the sputum. Careful examination of the lungs did not give evidence of actual disease, the only abnormality being that air did not enter as freely into the right lung as into the left. In the course of the following week the ulcer was scraped twice and pure lactic acid applied. The ulcer became much cleaner-looking and began to cicatrize.

After three weeks' stay in the Cotswold Sanatorium, during which the patient preserved complete silence, I heard from Dr. Etlinger that the patient was looking much better, and that the healing of the laryngeal ulcer had proceeded so satisfactorily that no further applications had been made to the throat. On February 3rd, 1906, I saw him again; he was very much improved, had gained a good deal of flesh, no ulceration was visible in the larynx, the only abnormality being slight congestion of the right vocal cord. He had not used his voice at all since I last saw him. When I tested it there was a good deal more ring in it than there had been. I recommended astrigent applications to the larynx, and weak faradization externally for a fortnight's time, after which I thought he might leave the sanatorium.

On February 19th Dr. Etlinger reported that the patient had returned home. The larynx had further improved since I had last seen him, but there was still some redness and relaxation of the right vocal cord, so that Dr. Etlinger had urged upon him the necessity of sparing his voice as much as possible for some time longer.

On October 27th of this year the patient reported that Dr. Etlinger, who had seen his throat in September, had been very pleased with its appearance, that personally he felt nothing amiss with it, that the voice appeared quite normal, and that even his singing voice was coming back. His general health had been and was excellent.

REMARKS.

The history of these 7 cases forms, I am afraid, but dull reading, they being so monotonously like one another. Nevertheless I have thought it right to give them somewhat in detail, for the following reasons:

1. It will have been seen that several of them, notably Cases I, II, III, V, and VI, distinctly belong to the category of grave tuberculous lesions of the larynx, which under ordinary circumstances are but very rarely found capable of such complete restitution of tissue and function as has taken place in these cases.

2. Case I teaches more particularly the value of vocal rest, as it will have been seen that other conditions, namely, general sanatorium treatment and local treatment, having been the same throughout the duration of the case, a real improvement only took place when the patient had been brought to maintain complete and prolonged silence.

3. The number of cases communicated protects, I think, the method against the objection that similar results might have been obtained even if no silence had been preserved. I certainly do not deny the occasional occurrence of the spontaneous cure of a tuberculous ulcer in the larynx, but such cases are very rare indeed, and I have never seen a retrograde metamorphosis without the aid of complete vocal rest, either alone or combined with local treatment, in such severe cases as Nos. I, II, III, and V.

Finally—and this is the main reason for the full communication of these 7 cases—their description in detail shows better than any words of mine could do the necessity of perseverance, when once the silence method has been adopted, in the face of initial disappointment and of repeated relapses. As this is the point which I have most at heart, I have risked rather boring the readers of this paper with tedious repetitions than failing to convince them of the value of the method. I shall look forward with much interest to contributions to this question either corroborating or rectifying my own experiences.

A Lecture

ON

PRESENT VIEWS ON DISEASES OF THE JOINTS.

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MANY things have small beginnings. It was in 1818 that Brodie published the first edition of his *Diseases of the Joints*. Here was the opening of a new chapter in surgery. Yet when we look back, unless we remember that the work of the pioneer must often, from the nature of the case, be limited to the seemingly humble office of clearing the ground and turning the first sod, we are struck by the meagre and rudimentary character of Brodie's production. He founded no school, he established no principle, he announced no discovery, he foreshadowed no generalization; his work was, as we now see it, wholly commonplace. His claim to be remembered lies in the fact that he made a beginning—that is all. What he had to say was easily comprised within the compass of 285 pages, consisting largely of records of cases; for his field of vision was limited to what he could observe at the bedside, or ascertain by naked-eye inspection of joints after amputation (and here he had many opportunities), or at *post-mortem* examinations. At the time of Brodie's new departure there were still some thirty years to elapse before microscopic investigation was to lend its aid, and therefore before any sound progress could be made in pathological research.

In the meantime it was customary to speak of some salient feature of a case as if it were itself the disease—in other words, to mistake symptoms for diseases, effects for causes. In Brodie's day one patient had a disease termed inflammation, another a disease termed dropsy, a third a disease termed jaundice, a fourth a disease termed angular curvature. Brodie and his contemporaries could deal only with the phenomena which hidden causes had produced; this was all that was as yet possible. His book consists of three sections, in which he treats of disease beginning in (a) the synovial membrane, (b) the cartilage, and (c) the bones, as if these forms were separate and independent processes. His descriptions were based on examples of chronic inflammatory conditions which had reached an advanced stage, and the majority of which were probably tuberculous. After Brodie's day knowledge, in respect to diseases of the joints, gradually increased, but mainly on clinical lines. The association of acute arthritis with pyaemia was frequently observed at the bedside; the clinical phenomena of rheumatic fever and the heart affection which was frequently present became more and more familiar; "gonorrhoeal rheumatism" was already clearly recognized, as were also the various clinical manifestations of gout; while the idea that joints were often the seat of an admixture of gout with rheumatism was a conclusion which naturally arose from clinical observation; and, although it was erroneous, it formed a link in the chain of progress.

In 1853, when Charcot published his account of acute