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OF BENIGN CHARACTER

IN

THE LARYNX.

BY

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CONSIDERATIONS ON THE TREATMENT OF NEW FORMATIONS OF BENIGN CHARACTER IN THE LARYNX.

THE introduction into medical practice of the laryngoscope, by Professor Czermak, more than sixteen years ago, opened up a new and even yet unexhausted territory for observation and treatment—a territory equalled in importance by that of no other technical instrument for exploring the deeper cavities of the body. The laryngoscope alone of all such instruments is useful alike to physiologist, medical observer, and practitioner. To the physiologist it reveals an absolutely clear and undistorted anatomical image of the organ in performance of its various normal functions; and by its aid facts of the greatest physiological interest have been discovered or perfected. To the medical observer an equally clear image of the organ and the exact nature of the lesion are revealed. Further, like the ophthalmoscope it may give early warning of pulmonary, cardiac, cerebral, or other disease. And, lastly, the laryngeal mirror directs the hand of the practitioner to apply with accuracy topical treatment to the spot or surface which may be subject to morbid action. All these advantages have combined to make the laryngoscope, at first considered a mere physiological toy, in a very short space of time an instrument of immense power for good, and, it may be added, also for evil. It is, I suppose, an unquestionable fact, that many more ophthalmic operations are now performed than previously to the discovery of Helmholtz. Certainly, the vaginal speculum and uterine sound have robbed of much wholesome fear surgical interference with the cavity of the womb. But as the laryngoscope surpasses all these other instruments, by combining completeness of revelation with opportunity for precision of local treatment, so also has its reputation suffered in far larger proportion from excessive instrumental interference with the organ over which it holds sway. It is some years since

Dr. George Johnson "felt it his duty to remark upon the possibility that the larynx may get too much of local treatment". Yet I fear that some who have quoted his warning have only done so to excuse their own overzeal in this respect.

Every sort of instrument has been introduced into the glottis, from the innocent brush to the cutting forceps or unguarded knife; and, while portions of the larynx itself, as the epiglottis or a vocal cord, have been bodily removed, one American laryngologist, on the other hand, has made, by intralaryngeal operation with the reflected light of the laryngoscope, a new vocal cord to replace one lost by disease. At least, such is the reported case. I am glad, for the honour of British surgery, to be able to state that these abuses of the value of the laryngoscope have, for by far the most part, occurred abroad; and I venture to hope the climax has recently been reached by removal of the entire larynx—an operation offering but little chance even of relief, much less of cure.

In no department of practice with the laryngoscope do the foregoing remarks obtain with greater force than in that of the treatment of growths in the larynx; for, since Czermak, in 1859, first discovered, with the laryngoscope, a growth on the right vocal cord, and Lewin, eighteen months later, by aid of the same instrument, removed one, the goal of every student in throat-diseases has been to find an excrescence in the larynx, and, having found it, to remove it *vi et armis*, without for a moment considering how slight might be the symptoms he was attempting to relieve, or what serious results might ensue to his patient by the operative interference he adopted. I venture to think, therefore, that a few remarks with a view of inducing members of the profession to withhold their hands from efforts at mechanical removal of what is often, in every sense, a most benign formation, will not be considered inopportune or unworthy of attention.

The propositions I venture to submit for consideration are the following.

1. Attempts at removal of growths from within the larynx are not in themselves so innocuous as is generally believed, but, on the contrary, direct injury of healthy parts of the larynx, leading to fatal results, is by no means of unfrequent occurrence.

2. The functional symptoms occasioned by benign growths in the larynx are in a large proportion of cases not sufficiently grave to warrant instrumental interference.

3. Many of these new formations will disappear, or be reduced by

appropriate local and constitutional medical treatment, especially when of recent occurrence.

4. Recurrence of laryngeal growths after removal *per vias naturales* is much more frequent than is generally supposed.

5. While primary malignant or cancerous growths are of extremely rare occurrence within the larynx itself, benign growths not unfrequently assume a malignant and even cancerous character by the irritation produced by attempts at removal.

6. The instruments most generally now in use are far more dangerous than those formerly employed.

7, and lastly. The cardinal law, that "an extralaryngeal method ought never to be adopted unless there be danger to life from suffocation or dysphagia", should be applied with equal force to intralaryngeal operations; and it is a subject worthy of consideration whether, in many cases, tracheotomy alone might not be more frequently performed—*a.* with a view of placing the patient in safety when dangerous symptoms are present; *b.* In order that the larynx may have complete functional rest; and *c.* As a preliminary to further treatment, radical or palliative.

Now, to consider these several propositions in detail.

1. *Attempts at removal of growths from within the larynx are not in themselves so innocuous as is generally believed, but, on the contrary, direct injury of healthy parts, leading to fatal results, is by no means of unfrequent occurrence.*—I am quite prepared to give case for case in which this proposition could be verified; for I have knowledge of at least five instances in which perichondritis, or other equally fatal result, has followed as a direct consequence of intralaryngeal instrumental operations for removal of benign growths from the larynx. Nor is there much room for wonder at such a statement. However able a laryngoscopist the operator may be, he is, in ninety-nine cases out of a hundred, guided in his knowledge of the exact situation of the growth by previous examinations; and, when he operates, the larynx spasmodically closing around the instrument as soon as it passes the epiglottis, the growth is caught according to his skill, or, more often, according to his good fortune. But it is easy to understand how a piece of mucous membrane, the arytenoid cartilage, or one of the cornicula, may be caught and injured also. This is especially the case with the unguarded instruments now generally employed. Further, it every now and then occurs, that spasm of the larynx after an operation on a growth is so severe as

to require tracheotomy. I have myself been called upon to perform it for such a reason.

2. *The functional symptoms occasioned by benign growths in the larynx are, in a large proportion of cases, not sufficiently grave to warrant instrumental interference.* Dr. Morell Mackenzie, in his exhaustive and elaborate essay on *Growths in the Larynx*, analyses the symptoms of nearly three hundred cases, one hundred of which occurred in his own practice, while the remainder were derived from every published source, English or foreign. From this analysis, it is seen that impairment of the voice is the unique symptom in about fifty-two or fifty-three per cent. of cases of growth. Pain is a very rare symptom. Cough, and not often severe, occurs but in twelve per cent. In two or three per cent., the sole sensation was that of "tickling". Difficulty of swallowing occurred in only eight per cent., and actual pain in swallowing was present in only one of these eight instances. In all these latter cases, the growths were attached to the epiglottis, and there could not be any objection to, or any difficulty in, their removal. These cases of glandular or fibrous growths on the epiglottis may, therefore, well be dismissed from further consideration as hardly coming within the scope of the present article. Dyspnœa was present in only thirty per cent., and dangerous dyspnœa in only fifteen per cent. In other words, as many as seventy per cent. of the cases were free from any element of danger whatever, and in eighty-five per cent. there was no serious danger to life.

It has, I am aware, been generally considered that mere impairment or loss of voice is in itself a sufficient reason for removing a laryngeal growth ; but this opinion has been, and is, held in the belief that intra-laryngeal operations are at least harmless, if not always successful, and few practitioners have hitherto thought it necessary to warn their patient that there was a certain amount of risk to life attending these operations, and that, in comparatively few cases, is the voice restored to its purity and entirety. The number of persons to whom the advice (appropriate to those subject to benign growths in other regions of the body) to watch and wait is given, must be very small ; but, without doubt, there are a very large proportion which never require treatment, and, if left to themselves, never assume a serious aspect. For example, I have been the subject for the last four years of a small polyp on the left vocal cord, which renders my voice occasionally, but not uniformly, a little hoarse, and the text of "physician heal thyself", is not unfrequently preached at me. A French laryngoscopist kindly offered to

remove it, but I hardly thought the symptoms sufficiently severe, and I have until now had no reason to regret having left it alone. Further still, there is no reason to doubt that, while many of these formations remain thus stagnant, a large proportion would, if untreated, "frequently disappear spontaneously, being subject, as they are, to slow atrophy and resorption" (Virchow).

3. *Many of these new formations will disappear or be reduced by appropriate local and constitutional medical treatment, especially when of recent occurrence.*—Before going further, I must premise that, except in the very rare and doubtful instances of a congenital growth, all these new formations originate as a direct consequence of hyperæmia, or, as Virchow puts it, "as the expression of an inflammatory irritation, which affects the whole surface, though it does not give rise to the same result in all parts". When growths are present, there is not unfrequently considerable general congestion of the laryngeal mucous membrane. It is, therefore, most important that every practitioner should make himself *au fait* with the use of the laryngoscope, and in every case of hoarseness examine the larynx of his patient at the very earliest date. Let him then treat the hyperæmia when it first occurs, and he will also see a new formation, should one arise, at its very commencement, or at least on the first approach of symptoms of its presence. It cannot be too strongly urged that the cause of a hoarseness is not to be discovered by pressing down the tongue with a paper-knife, and looking into the back of the mouth, and that a localised inflammation, ulceration, or irregular formation within the larynx, is not to be healed by swabbing the pharynx with a brush charged with solution of nitrate of silver, or by pushing a probang similarly loaded down behind the tongue, unguided by the mirror, in the vain belief that it is going into the larynx, when, in the one case out of ten in which it certainly reaches no further than the superior surface of the epiglottis, it as certainly finds its way down the gullet.

This is not the occasion, nor would space allow, to consider in detail the particular treatment best adapted for laryngeal congestion. It may be, however, stated that, in addition to the use of general and topical remedial measures to reduce the hyperæmia, the practitioner should remove any cause likely to keep up irritation of the larynx, such as a relaxed uvula, unsuitable occupation, or exposure to sudden changes of temperature, and rest of the voice should in all cases of hoarseness be strictly enjoined. I am not of opinion that frequent direct local applications with the brush are in

any way necessary in cases of simple congestion of the larynx; but the moment the least irregularity of the cord is visible, the practitioner should at once make mineral astringent applications to the spot, daily until there is diminution of the growth or ulcer, and then on alternate days, or less frequently, as may be required. I know there is a great and general feeling in the profession against local laryngeal treatment, and much of this feeling may be something more than prejudice; but the case may be put thus. No ophthalmic surgeon would say that he would deem it necessary to himself drop solutions each night and morning into the eye of a patient suffering from simple conjunctivitis; but, were the case one of ulcer of the cornea or granular lid, he would feel justified in advising the patient to have the necessary topical remedies applied by himself or some other medical practitioner; and, if this be true of the eye, how much more is it of the larynx, where the part to be treated is not only hidden from the ordinary view, but where also some amount of technical skill is necessary to apply topical remedies with precision. I have seen many cases of neglected hyperæmia of the larynx, in which after an interval—sometimes only of a few weeks—a new formation has been seen to have sprung up, and such cases are not by any means necessarily associated with syphilis or phthisis. I have also often seen cases of small growths in which, by early local treatment, a distinct cure has resulted. The last under my notice, seen also by my friend Mr. Llewelyn Thomas, was that of Miss T., aged 19, who for three months had lost her singing voice, and for two months had been distinctly hoarse in ordinary conversation. The condition, as seen with the laryngoscope at her first visit, is represented on Fig. 1, namely, a small growth on the left vocal

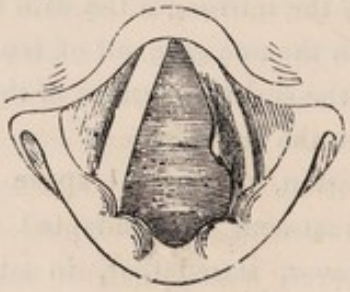

Fig. 1.

cord surrounded by bright red localised congestion. In a week from the first application, February 3rd of the present year, the hyperæmia was removed. In a month, she was quite well. I saw her last week, and her voice was perfectly clear. Now, as to constitutional treatment, a word or two may be necessary; for, as I stated a few

weeks ago, on the occasion of Dr. Drysdale's admirable paper on Syphilis, it is of the utmost importance in the case of syphilitic ulceration of the larynx, to combine local and constitutional measures, pursuing each with equal vigour and attention. Those who believe only in the local origin of these formations will probably be of opinion that all internal remedies are useless. It is certain, however, that syphilis, and, as I have little doubt, gout also, play an important part in predisposing to these local developments ; and it may well be that medicines directed to counteract these dyscrasiæ are of good effect on the local condition ; and so, I think, I have in some cases found them.

4. *Recurrence of laryngeal growths after removal* per vias naturales *is much more frequent than is generally supposed.*—Here again, as in illustration of the first proposition, numerous cases could be given in which the authors have been too quick to report their cures ; and since the reports have been printed their patients have presented themselves either to their former attendant or to another with a return of their disease. Six per cent. has been given as about the proportion of recurrence after intralaryngeal removal. I would put it at 20 per cent. Two cases lately under my notice may be quoted as illustrative of this proposition.

The first was that of Mr. T. F., a baker, who consulted me on October 22nd, stating that his voice had been always rather thick, having as a boy suffered from enlarged tonsils. He had within the last twelve months become hoarse, and was now almost voiceless. Until three or four weeks before coming to me, he had been for some months under the care of another practitioner, who had on eleven different occasions removed pieces of growth, and at the last two or three sittings he had informed the patient that there was the merest fragment left. There is in my mind not the slightest doubt that the practitioner stated

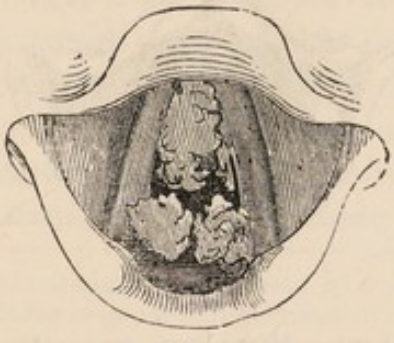

Fig. 2.

the truth ; but it should be mentioned that all this was not communicated to me until after I had examined the patient and made a sketch of his case (Fig. 2), when he exclaimed : "Why, that is just

like the drawing made before I was ever operated upon." Regarding what I just now said as to constitutional treatment in these cases, it may be stated that this patient had contracted primary syphilis six years previously, followed by sore-throat and skin eruption, and was when I saw him suffering from palmar psoriasis. He had, however, received no medical treatment whatever from his former attendant, who told him that the eruption on his skin had no more to do with his throat than would a broken leg. Mr. Durham, who kindly saw the case with me, shrewdly remarked: "But you would think a broken leg had something to do with your throat if you had hurt both with one and the same accident."

The second case is that of Walter L., a hairdresser, aged 19, whom I first saw on the 3rd of March last at the Central London Throat and Ear Hospital. He stated that he had always been subject to catarrh, and, having lost his voice during an attack two years previously, had never since recovered it. He had attended for nearly a year at a general hospital, and only on his last visit had been examined with the laryngoscope. He had then attended another hospital, where, after removal of his uvula, pieces of growth were evulsed from his larynx on four different occasions, at intervals of from seven to ten weeks. The largest piece was that last removed. He stated that his voice was now worse than before any operation at all, and that lately his breathing had become laboured. He gave as his reason for discontinuing attendance at this last institution, that he did not see what was the use of these operations if the tumours grew larger at each interval. Laryngoscopic examination showed two pink lobulated and symmetrical growths on the vocal cords at their anterior insertion (Fig. 3). There was great

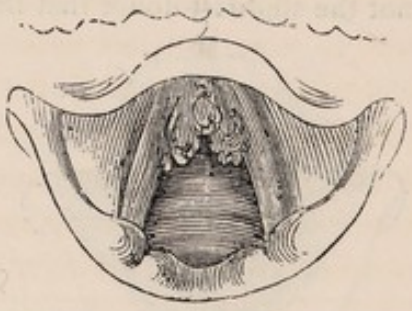

Fig. 3.

thickening and irritability of the pharynx; the larynx was also extremely congested, and it was difficult to make even an ordinary examination. Although, therefore, I bring this case forward to show the strong tendency to fresh growth, even while under treatment, I cannot

forbear expressing my opinion that the fact that any growth at all had been removed, reflects the greatest credit on the skill of the practitioner under whose care this patient had been.

It is worthy to be remarked that, where there is a tendency to fresh growth in another part of the larynx, or to recurrence in the original situation of the first formation, and repetition of operative procedures is made, the intervals between each successive recurrence almost invariably become shorter. This is, I believe, only what takes place in recurrence of tumours in other parts of the body.

5. *While primary malignant or cancerous growths are of extremely rare occurrence within the larynx itself, benign growths frequently assume a malignant or even cancerous character by the irritation produced by attempts at removal.*—This proposition is to a large extent a corollary of the foregoing. Epithelioma commencing at the epiglottis or base of the tongue, or at the anterior wall of the œsophagus at its favourite spot just opposite the cricoid cartilage, often extends into the larynx; but it is most rare to find malignant disease commencing in the vocal cords or ventricular bands; that is to say, in the cavity of the larynx itself.* One of the points, however, strongly brought out by Mr. Simon and Sir William Jenner, and admitted by Mr. De Morgan in the great discussion on Cancer at the Pathological Society last year, was, that cancer may be induced in tissue previously healthy by mere irritation, such as that of a needle; this result being due, according to the two former authorities, to constitutional vice, and to the latter, to local development. Whatever the cause, this is what is often found in the case of growths of the larynx. I may allude to one such case (No. 87) in Dr. Morell Mackenzie's report of one hundred cases, which he, having treated during the life of the patient as benign, most straightforwardly included in his list of benign cases, though somewhat to the detriment of his statistics. I quote his remarks on the result of the *post mortem* examination. "The luxuriant growth of the new formation in this case pointed to its being otherwise than of benign character; and its microscopic examination illustrates the extreme difficulty of arriving at accu-

* This statement was made originally as the result of my own experience, which comprises a personal knowledge of at least 20,000 cases of throat-affections, and in which I had only seen two cases of what was considered to be primary cancer in the larynx. A doubt having been suggested to me of the accuracy of my assertion, reference has been made to the works of Türck, Cohen, Mandl, and others; all are found to agree in the rarity of primary cancer of the larynx proper, and the extreme rarity of any form but that of epithelioma.

rate conclusions concerning the histology of these tumours even when the entire growth is brought under observation. The specimen was examined by several eminent microscopists, and was at first supposed to be a simple papilloma. On another examination, fibrous tissue was found to be developed, and it was pronounced to be fibro-cellular. Still later, my brother, Mr. Stephen Mackenzie, discovered some nested cells (laminated capsules of Paget). From the extreme importance of this element, the case must undoubtedly be placed in the category of carcinomatous growths, and be considered as epithelioma. The whole surface of the growth was covered by papilloma." I was the more impressed with this case, because I saw the patient almost daily while he was under the care of Dr. Mackenzie, and he was for some months transferred to my sole charge.

6. *The instruments now most generally in use are far more dangerous than those formerly employed.*—Success in removal of growths from within depends so much on the individual manual dexterity of the practitioner, as well as on the method of his examining the larynx and the plan on which his other instruments are constructed, that it is not surprising that well-nigh every practitioner who has attempted the operation has invented a new instrument for the purpose. As with tracheotomy-tubes, many such instruments have been adapted for one particular case, their utility lapsing with its termination. As to others, one wonders how they could ever have been expected to be of use at all. At first, every instrument—and, indeed, some more cautious practitioners still confine themselves to such—was on the principle of a snare; and these were undoubtedly the safest. They are constructed more or less on the plan of a Gooch's cannula, and have been used by Dr. Walker of Peterborough, Sir Duncan Gibb, Dr. George Johnson, and others. The fault of them is that, while safe from injuring other parts, they are not well adapted for hard or large growths. Dr. Mackenzie's tube-forceps are a step further towards more instrumental freedom and strength.* Then came guillotines, rigid loops with sharp edges, fenestrated knives; and finally, in America, Germany, France, and England, common forceps, cutting forceps, and crushing forceps, strong enough to break a vesical calculus. Scissors, knives, guarded and unguarded, were also freely used. Galvano-cautery has been extensively employed abroad, but, happily for the patients, has not

* Dr. George Johnson has recently been so good as to show me an arrangement, suggested by an ingenious patient, by which this form of forceps is rendered somewhat less liable to wound the mucous membrane.

met with much professional favour for these cases in this country. As a curious evidence that even in Germany, where operative procedures are most boldly adopted, a feeling is dawning that it is possible to intrude too rudely into the larynx, it may be noted that Eyselle has recently suggested transfixing the growth by a needle passed through the thyroid cartilage from without: a procedure more easy in imagination than performance, and of little practical value. Dr. Jelenffy of Pesth has also, on the well founded belief that one does not see much of the larynx after the instrument has entered it, invented a very safe guarded *écraseur*, by which, as he states, first one side and then the other can be freely and safely swept of excrescences. Undoubtedly, the safest instrument is the guarded ring-guillotine of Stoërk, which combines strength, cutting power, and the maximum of safety against wounding healthy parts. I think I have good reason for stating that, since instruments were used unguarded, injury to healthy structures, and consequent perichondritis, have occurred more frequently than was formerly the case.

7. *The cardinal law, that "an extralaryngeal method ought never to be adopted unless there be danger to life from suffocation or dysphagia", should be applied with equal force to intralaryngeal operations;* and it is a subject worthy of consideration whether, in many cases, tracheotomy alone might not be more frequently performed—*a*. With a view of placing the patient in safety when dangerous symptoms are present; *b*. In order that the larynx may have complete functional rest; and *c*. As a preliminary step to further treatment, radical or palliative. If I have succeeded in proving the truth of my previous propositions, there is not much necessity for enlarging on this. I would simply beg once more to impress the importance of a more general study of the laryngoscope, and of its use at an early stage in every case of alteration of voice; of the early treating of hyperæmia of the larynx, remembering that it is the most general forerunner of growths; of the early and active local treatment of such new formations by topical astringent applications; of the administration of suitable medicinal remedies when there is evidence or presumption of any constitutional cause or complication; and of the non-instrumental interference with these formations for mere symptoms of inconvenience, having always in view the dangers that may occur to healthy structures, and the fear that irritation of the growth may only make the disease worse, rather than better. I have not discussed the question of thyrotomy, or division of the external cartilage of the larynx. Many of these operations have been done for

reasons as little justifiable as some in which intralaryngeal operations have been adopted. Certain foreign practitioners have not hesitated to divide at one operation two or three rings of the trachea, the cricoid cartilage, the crico-thyroid membrane, the thyroid cartilage, the thyro-hyoid membrane, and even the hyoid bone, for removal of a small growth causing but little annoyance; and all this with apparently no thought of such a consequence as perichondritis or caries. In many cases where there is dyspnœa—the only symptom which appears to me to warrant interference capable of leading to fatal results—tracheotomy, whether as an only step, or as preliminary to other measures, should much more frequently be adopted. In making this suggestion, I am not unmindful of the fact that the operation of opening the windpipe is in itself a serious operation; but it is generally agreed that, in chronic diseases and in adult patients, the procedure is unattended with much risk to life. Amongst other advantages in the class of cases under consideration, it offers the chance of removing the growth from below—*i. e.*, through the tracheal opening. Sufficient success has already attended this step to give encouragement to its more frequent adoption.

Looking at the many evil consequences likely to result, and actually resulting, from attempts at removal of growths from the larynx by the laryngoscopic or any other method, the profession generally will, I trust, consider the proposition established, that there is not so commonly as is supposed any operative procedure for the treatment of these cases in which "no chance of danger is incurred".

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