

Should the temperature be continuously high and the vital powers undergoing rapid exhaustion, antistreptococcic serum, or even normal blood serum, may be injected. The patient's strength must be kept up by means of quinine and alcoholic stimulants.

When complicated with cerebral or cerebellar abscess, the abscess should be opened through an aperture in the bone as far as possible from the sigmoid sinus.

When complicated with meningitis, lumbar puncture may be performed. If there are pus cells or cocci in the fluid, no further operation should be attempted. In the absence of these the meningitis is probably of the serous form, and likely to subside after operation on the sinus.

Metastatic abscesses must be opened as they arise.

A PLEA FOR EARLY NAKED-EYE DIAGNOSIS AND REMOVAL OF THE ENTIRE ORGAN, WITH THE NEIGHBOURING AREA OF POSSIBLE LYMPHATIC INFECTION, IN CANCER OF THE LARYNX.*

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THIS is a very important subject, Mr. President, and I hope you will allow it the utmost latitude of discussion. For my own part, I shall be as concise as possible, and shall only call attention to certain phases of the question which, in view of its unsettled state, seem to me to be of most pressing and immediate importance. Leaving out of consideration the probable existence of a cancer bacillus, and the possible future detection of the disease through the blood and secretions, there remain, in the present state of our knowledge, three principal methods of diagnosis in laryngeal cancer. These are, in the order of their practical usefulness and importance:

1. The naked-eye method, or diagnosis by direct inspection, supplemented by clinical phenomena.
2. Thyrotomy.
3. The microscope.

Of the three methods, the second is often included in, and therefore ancillary to, the first.

It is impossible to exaggerate the importance of naked-eye

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diagnosis in the detection of laryngeal cancer. Take it all in all, it is by far the most practical of the three methods. Unfortunately, in most quarters it is relegated to a subsidiary place. Even the best of laryngeal surgeons lose no time in procuring portions of a suspected growth for microscopic examination before they have gone thoroughly into the history of the case, and carefully endeavoured to make the diagnosis with the naked eye alone.

Every resource and refinement of clinical diagnosis should be resorted to before an appeal to the microscope is made.

As the advanced workers in the field of general surgery have, in the differentiation of tumours, come less and less to seek the counsel of the pathologist, except as a court of the very last resort, so should we teach ourselves to depend more and more upon the naked-eye appearance in the diagnosis of tumours in the windpipe. I wish to insist with emphasis upon the importance of cultivating this, comparatively speaking, neglected method. Detection of the disease by direct ocular inspection seems a simple enough proposition, but how often is the principle involved directly violated by the diagnostician! We need not go beyond the laryngological records of the immediate present for proof or illustration. Search the literature of to-day—alike in text-book and periodical—and see how comparatively little reliance is placed upon clinical signs and symptoms, and how quickly the aid of the microscope is invoked, and often with what disastrous results! The removal of the “piece for microscopic examination” too often means only the beginning of the end.

The trained surgeon of to-day discriminates with marvellous accuracy (with the naked eye) between the different varieties of benign and malignant growths, and we should cultivate and encourage a like amount of skill in the diagnosis of laryngeal tumours. There is, unfortunately, no solitary unequivocal symptom or laryngoscopic sign of cancer. The diagnosis must be made by grouping together, when present, both the local and general phenomena. In a large proportion of cases the existence of the disease at an early stage may be detected in this way, and not until all the subtleties of the diagnostic art have been exhausted should we resort to other modes of diagnosis.

But suppose, after weighing carefully all the facts of the case in our possession, a reasonable doubt remains as to the diagnosis, shall the next step be the removal of a portion of the diseased structure for examination?

In the face of all authority to the contrary, I say emphatically, “No.” Before even considering such a proposition (if it be con-

sidered at all), the suspected growth should be examined from every point of view, for in this manner alone can we give the naked-eye method its full measure of usefulness. This is best accomplished by the second method, thyrotomy, or, if necessary, even more extensive external division of the tissues of the neck.

Thyrotomy is (always) justifiable in such cases, when laryngoscopic examination either leaves a reasonable doubt as to its true nature, or manifestly fails to define the exact territory occupied by the disease.

Much has been said in recent years about the dangers of thyrotomy, and we are told that we must not operate if the lymphatic glands of the neck are involved. If there be any chance of saving life, I believe a preliminary thyrotomy justifiable, even in the presence of external glandular involvement, provided such involvement be not on its face too extensive. More than that: if, on thorough exposure of the parts—assuming, of course, that there be no serious contra-indication to operation—it be found that the disease can be thoroughly eradicated, even if such eradication should involve deep dissection of the surrounding tissues of the neck, it is far better to give the patient that chance of life than to allow him to drift on to certain and horrible death. As Jacobi said of opening the windpipe in diphtheria, if we saw a man hanging by his neck we would not hesitate to cut the rope because the individual was in the last stages of tuberculosis or cancer. So in the class of case we are considering: we have no right not to give our cases every possible chance, even though the statistics of the past may possibly be against us. We want new statistics—statistics based on more accurate co-operative work.

Much can be learned by this method, but it, too, has its limits of usefulness; for, while it alone may establish with certainty the existence of cancer, it often fails to define with absolute accuracy the whole area covered by the morbid process. We can, therefore, never be perfectly sure, especially in cases in which the cancer appears as a diffuse infiltration, that we have the entire disease before our eyes; for, as I have formerly pointed out, as it is often impossible to indicate with exactness the extent of the trouble laryngoscopically, so after division of the larynx, and even after the removal of the latter organ from the body, it is by no means always possible to map out the entire distribution of the affection.

But suppose, after division of the larynx, there still remains the faintest trace of uncertainty as to diagnosis, are we justified under the circumstances and at this stage in removing a portion of the growth for examination? Or, to make the question still broader,

is partial extirpation of the tumour ever admissible even for the purpose of microscopic diagnosis? Only as a measure of the very last resort. Before resorting to thyrotomy in general, especially if a portion of the growth is to be removed for examination, it should be clearly understood beforehand with the patient that if the disease should prove to be cancerous the surgeon shall be at liberty, if in his judgment it seems best, to proceed at once to operation.

The objections which I would urge against removal of tissue for examination (especially when done through the natural passages) are: (1) it subjects the patient at once to the dangers of auto-infection at the point of incision and to metastasis elsewhere; (2) it stimulates the local growth of the cancer; and (3), finally, the method is often inconclusive, misleading, and sometimes practically impossible.

The moment the continuity of the growth is broken, in that very moment is opened the pathway for self-poisoning, and an unfavourable influence is at once excited on the local process. This is the solemn lesson which I have slowly learned from a sad experience in the past.

Cancer is an infectious process. Whether it be due to a micro-organism, which is probable, or whether its activity be due to some vital principle inherent in the cancer cell, incision through the cancerous mass opens up at once a broad avenue for auto-inoculation.

When I look back through the years in which I have seen cancer of the larynx maltreated, and in which I have maltreated it myself, I am simply appalled at the retrospection. And yet, incredible as it may seem from the standpoint of the modern treatment of cancer, the universal sentiment of authority is to-day practically unanimous in advising removal of portions of the suspected neoplasm as an early and routine method of diagnosis.

The latest *ex cathedrâ* monograph on the subject, fresh from the press, on whose pages the ink is scarcely dry, not only advocates this, but also recommends (at least in the early stages of cancer) the endolaryngeal method, devoting seven pages to its consideration, and only two to the more radical measures.

Early diagnosis, and therefore early radical treatment, is of prime importance in all diseases, but especially so in cancer of the larynx. Many other affections may be aborted or controlled by comparatively simple agencies. In tuberculosis, for example, we may invoke the powerful aid of climate; in syphilis, the unfailing action of certain drugs; in diphtheria, the almost magic influence of antitoxin; but in cancer our only appeal is to the knife. Serum-

therapy will some day play the most conspicuous rôle in the treatment of this disease. For surgical treatment, to be sufficiently radical, involves the sacrifice of so much tissue that the time must surely come when surgery will be supplanted by simpler and more certain means; and with the discovery of the agent of infection will come its antidote. But to-day the knife is our only means of cure. How can we best employ it?

The general principle of treatment in cancer of the larynx is sufficiently simple. It is, or should be, identical with that which governs us in the treatment of cancer elsewhere in the organism. Total extirpation, through liberal portions of healthy tissue, of the growth, together with the neighbouring area of possible lymphatic infection, is the cardinal principle of surgery in the treatment of this disease, for by no other method can it be thoroughly eradicated.

The surgical treatment of laryngeal cancer has resulted in failure in the past because the methods employed have not been sufficiently radical. Thyrotomy with curettage or partial removal, partial and complete removal of the larynx, have fallen far short of success simply because they have not completely removed the disease. The records of the future will show that the reason so many cases have terminated in failure and death is because the disease has only been partially removed. As long as we have lymphatics to carry infection and glands to become infected, so long will the patient be subjected to ultimate danger. There is only one rational method—in the majority of cases, at least—of dealing with cancer of the larynx. Early total extirpation of the entire organ with its tributary lymphatics and glands, whether the latter be apparently diseased or not, is the only possible safeguard against local recurrence or metastasis. By no other method can we give the patient a reasonable assurance of a permanent lease on life.

The surgeon who is abreast with the times does not trifle with cancer in other organs. Why should the larynx be made the exception to the rule? I am told that there are some gynæcologists who still curette the uterus for cancer, and some surgeons who still remove half the breast in that disease; but, like the Democrats who still vote for Andrew Jackson for President, they are becoming every day more and more hopelessly in the minority. We shall have to learn the same lesson here that we are slowly learning in the case of cancer in other parts of the body. It is the same old fight, and the same old obstacles will have to be overcome.

It is often impossible by inspection either with the laryngoscope or after preliminary division of the thyroid, by transmission of

light or by the sense of touch, to limit the extent of the disease before operation. As I have demonstrated, even after the removal of the larynx the disease may be apparent in one side of the organ and not in the other, and yet the microscope show extensive carcinomatous deposit in the seemingly normal side. Especially is this the case in diffuse infiltration, or when the epithelioma originates in the deep-seated tissues and does not approach the surface until a late stage of the disease. The loose tissue beneath the mucous membrane in many places, and its wealth in lymphatics, often favour from a small focus of infection infiltration of other portions of the larynx, and sometimes with great rapidity.

Diffuse infiltration, even though confined to a small area, should always awaken suspicion of the existence of the disease elsewhere in the organ, even though no apparent signs of its presence exist.

It is also possible that in a more or less advanced stage of cancer of the larynx, or even in its early history, we may find young cancer cells in the lymphatics, as Halsted has demonstrated in the case of cancer of the breast.

In the presence, therefore, of the fact that it is often impossible to limit the diseased area by inspection and the sense of touch, and in the light of the revelations of the microscope, it becomes a serious question whether we accomplish any lasting good by any operation short of complete excision of the larynx and the neighbouring lymphatics and glands. Certainly, if the disease approaches the middle line, the imperative necessity of complete removal must be apparent to the most timid and doubting operator.

Confronted by this uncertainty, the position of the surgeon is a most responsible one. Operations of this class should only be done by surgeons of acknowledged skill both in operation and in technique, and with a conscientious recognition of the ethical relations of operator and patient. In considering this question, I am profoundly impressed with the solemnity of the issue involved. It is not a theory, but a condition, that confronts us. Beside the question of saving life, all other considerations pale into insignificance. We special workers in the field of laryngology must cast aside our pride, and recognise the fact that, while our achievements may be brilliant in the domain of endolaryngeal surgery, when it becomes a question of extirpation of larynx and lymphatics, we must seek the aid and counsel of the general surgeon. We must work together, the one dependent on the other.

It is not so very long ago that excision of the breast was looked upon as a formidable and deadly operation, but this idea has been

dispelled by modern surgery, and especially by the brilliant results achieved by Halsted in this special field.

In the hand of a skilful surgeon extirpation of the larynx is not the ghastly operation that we have been taught to regard it in the past, whilst its dangers are largely, if not wholly, preventable. Excision of the larynx and the removal of the neck lymphatics is one of the simplest and easiest dissections of major surgery, and the chief danger accompanying the former—septic pneumonia—may be perfectly done away with by low tracheotomy and packing between the tube and upper wound.

The chief danger is not from the operation, but from recurrence in the neck lymphatics.

While total extirpation of the organ with the neighbouring area of possible lymphatic affection should be the general rule of practice, are there exceptional cases in which a less radical method of procedure is justifiable?

Early cases, in which the growth is very small (as, for example, the small papillomatous and polypoid growths sometimes found on the cords, distinctly circumscribed, remote from the middle line, and not of a specially malignant type), may possibly be removed with safety by extirpation of half the larynx and the lymphatics of the corresponding side. Even here success may be due to the fact that, while the growth may be pathologically malignant, it may yet be clinically benign. For example, on other mucous membranes of the body (lips, mouth, bladder, etc.), and on the skin, we find such neoplasms in which the microscope shows an epitheliomatous structure in the main body or superficial portion of the growth, but no malignant changes in base or pedicle. It is quite probable that such a condition exists in the larynx. But even in removal of half the larynx and neck lymphatics we can never be perfectly sure that we have removed the entire disease, whilst it is open to doubt whether the preservation of function which may be secured thereby is sufficient to warrant the risk. Partial preservation of function should never be attempted in the presence of the slightest danger to life.

Operations for laryngeal cancer through the mouth, done almost universally to-day, it seems to me, should no longer come within the range of serious consideration.

Thyrotomy with curettement, or removal of all apparent (visible) disease, is not up-to-date surgery, is in direct defiance of the rules that should govern us in the treatment of cancer, and is a reversion to, and a resurrection of, a method of procedure that was discredited and abandoned over half a century ago.

Whatever operation be done, it should be for ever borne in mind that we are dealing with cancer—with an infectious process; that, no matter how minute the original point of infection may be, the area of possible poisoning is practically boundless; and that, if the slightest doubt exists as to the circumscription of the growth, the complete operation should be done.

No operation for laryngeal cancer is complete without the removal of the neck lymphatics.

It is chiefly because they have not been complete that excision of half the larynx or of the whole organ have so signally failed in the past.

The history of the treatment of laryngeal cancer is the same old wretched story of the treatment of cancer in other organs—the long and melancholy record of dismal failure after failure, the inevitable result of only partially removing the disease. What is the present status of the subject? As far as operative measures are concerned, there seems to be utter paralysis of effort; on every side we are confronted by practical failure. Without stopping to inquire how far apparent success in partial removal of laryngeal cancer may be due to mistakes in diagnosis or to the simple accident of good fortune, it is safe to say that in the present state of our knowledge the outlook is extremely unsatisfactory and sombre. In the presence of the great uncertainty that surrounds operations for partial removal, and in the light of our experience in the modern treatment of cancer in other organs of the body, shall we resort to complete extirpation of the larynx with the neighbouring area of possible lymphatic affection, or shall we cling with fatuous persistency to what someone has called, with cruel felicity of expression, the “incomplete operation,” under which term must be included all surgical procedures hitherto resorted to in this disease?

The time will surely come, if it has not already come, when the conscientious surgeon will consider that he has fallen far short of his duty both to his patient and to himself if he does not, in the treatment of cancer of the larynx, remove not only the entire organ, but also the neighbouring lymphatic area. Then, and not until then, will we have more favourable statistics and prognosis in cancer of the larynx. Then, and not until then, will the medical historian chronicle a real advance in the management of this terrible disorder.
