Clinical Lectures

DELIVERED AT

CHARING CROSS HOSPITAL.

BY

HYDE SALTER, M.D., F.R.S.,

FELLOW OF THE ROYAL COLLEGE OF PHYSICIANS; LECTURER ON
PHYSIOLOGY AND PATHOLOGY AT CHARING CROSS
HOSPITAL MEDICAL SCHOOL; AND ASSISTANT-
PHYSICIAN TO THE HOSPITAL.

LECTURE III.—ON CATARRHAL LARYNGITIS.

Reasons of the Gravity of the Affection. Case. Analysis of Diagnostic Symptoms—Breathing, Voice, and Cough. Treatment. Summary.

GENTLEMEN,—You are all of you familiar with the word *laryngitis*, and equally familiar with what it means—inflammation of the larynx. The name is an individual name; but I must warn you to banish from your minds the idea that it represents an individual disease—a pathological entity. It is nothing more than a topographical definition. The essential pathology in different cases may differ as widely as the poles; but as long as it is the larynx that is affected the disease is laryngitis; and it is from its situation—the very circumstance that gives it its name—that the affection derives its gravity and peril.

It is, indeed, a most terrible malady; terrible for that which chiefly imparts terror to disease—its danger to life; and terrible, also, from the peculiarly painful character of the condition that it is apt to induce—strangulation. There are few diseases more fraught with peril to life than acute laryngitis; and what is more, there are few diseases that kill quicker. This arises entirely from the situation, shape, and function, of the part affected. The larynx holds the key, so to speak, of the function of respiration; suspend that function for three minutes, and life is extinct. There are but two organs, in my opinion, more vital than the lungs—the heart and the brain. The larynx is, as it were, the doorway of the lungs, and the chink of the glottis may be said to be the doorkeeper; through this narrow chink the breath of life must pass, and anything which befalls it and destroys its patulousness is necessarily mortal; and mortal at once, or slowly mortal, according to the degree in which the strait is narrowed.

Thus we see, then, that anything befalling the larynx is critical from the commanding position which it holds. But it is further critical from the conformation of the part. Capacious as the larynx is below, the channel that measures the freedom of access of air is the chink of the glottis; and this is so slender that a very small amount of anatomical change will completely obstruct it. You may have a good deal of tumidity in the chamber of the larynx, or even the cylindrical tube of the windpipe, and their capacity a good deal encroached upon, and yet no evil arise; but place the same amount of tumidity, thickening, or what not, at the rima glottidis, and the passage is effectually occluded.

But yet again, anything befalling the larynx is further critical on account of the physiological en-

dowments of the part. I have told you that the glottis is a sort of *janitor vitæ*, placed as a sentinel over the function of respiration; its very purpose is to close the respiratory passages, and to do so in obedience to certain impressions. It takes cognisance of the approach of any offending or hurtful material, and at once shuts it off from access to the delicate organs that it guards; as, for example, particles of food, noxious gases, irritating vapours. It is, therefore, highly sensitive, and endowed with an elaborate muscular apparatus giving it strong stricture power, uncontrollable by the will in the presence of any source of irritation.

I may, perhaps, yet add a fourth reason that makes inflammation of the chink of the glottis perilous—the looseness, namely, of the submucous areolar tissue. This favours the development of one of the most serious results of inflammation in this situation, namely, oedema; and renders it possible to occur to any extent and with any rapidity.

From these various causes, and from the intensity of the inflammation that sometimes falls on the larynx, laryngitis is so dangerous an affection that it may terminate fatally within a few hours of its first supervention, and may require prompt surgical interference in order to avert the impending catastrophe.

On going into the wards on Tuesday, Oct. 16, we found sitting in bed, for he could not lie down, a man with a pale, slightly dusky face and anxious expression, breathing in a very peculiar way, such as I shall presently describe to you, and voiceless. His breathing was evidently quite inadequate to satisfy his respiratory exigencies, and his distress was respiratory distress; he could not sleep; his pulse was rather small, but regular, and but little accelerated; he had a peculiar cough which, like the dyspnoea, I shall presently describe to you. We subsequently gleaned the following history from him.

Thomas Farrell, aged 45, is by occupation a waiter at an hotel, and constantly exposed in his avocations to heat and steam in the cooking department; he has been in the habit of drinking freely, and is frequently exposed to draughts when in a perspiring state; he is very apt to perspire about the neck and get his neckcloth wet, wearing it in that state till it has again become dry. He has been married for the last twenty-five years, and has never had syphilis. He was always well up to four years ago, when he caught a severe cold, accompanied with cough, expectoration, and soreness of the chest. From this he soon perfectly recovered, but ever since, off and on, he has been liable to such attacks, having had five or six of them; he has been quite well in the intervals, and they were unaccompanied with any throat affection. Last winter, however, just after Christmas, after waiting at a ball (it was the 14th of January, the coldest night of that inclement winter), he caught a cold of unusual severity. He had occasion that night, in his waiting, constantly to run across, in the open air, from the hotel to the ball-room, snow being on the ground and the ball-room very hot. This time the attack fell upon his throat. Cold shiverings came on in the night, and in the morning he found that he could not speak—his voice was reduced to a whispering; he had a sore chest, tightness across the sternum, hissing laryngeal respiration, and great difficulty in getting air through the glottis. After three weeks these symptoms abated, and he remained well up to

three weeks ago, when he was seized with the same symptoms after a similar exposure. It was the night of the great fire near London Bridge; and he stood in the cold wind, looking at the fire from the bridge, after having been perspiring at his hot work at Simpson's Divan, in the Strand. In the night, he was seized with the same rigors as before, the same constriction and strangulation about the throat, the same voicelessness, etc., and has remained in that state ever since, some days a little better, some days a little worse; and, at last, feeling decidedly worse, applied for admission on October 16.

Let me now direct your attention to those points on which the diagnosis turns. They are such as constitute the most striking phenomena which presented themselves to us when we first came across this man in going through the wards, and consist in certain modifications of the natural functions of the part implicated.

And here let me remind you, in parenthesis, that you will, in the modified functions of parts, almost invariably find your safest and surest clue to the diagnosis both of the seat and of the nature of the disease you may be investigating.

Now, what are the functions of the larynx? They are vocalisation, cough, and respiration; the two former actively, the latter permissively. How, in this case, are these three functions modified? I will take them in the order in which we became acquainted with their modifications as we stood by this man's bedside.

In the first place, we noticed that he was breathing in a very odd way, that he was making a noise in his throat, both at inspiration and expiration, of the same kind as people do when they whisper. This was so loud that it could be heard at a considerable distance across the ward. On applying the stethoscope to the windpipe, and indeed all over the chest, a loud rasping sound was heard, both at inspiration and expiration, and drowning the natural inspiratory murmur. We observed, moreover, that the respiratory rhythm was deranged; that, although there was evidently considerable respiratory distress, the breathing was not hurried, but, on the contrary, was rather long drawn; and that, instead of consisting of the natural three elements—inspiration, expiration, and rest—the post-expiratory rest was effaced, and the whole respiratory interval occupied by a laboured and tedious inspiration, followed by an equally tedious and laboured expiration, the next inspiration starting sharp from the termination of the expiration, so that the man's breathing constituted a long drawn, rasping, see-sawing. The expiration and inspiration were of about equal length, and both of them accompanied with the same rasping, hissing sound.

This is true laryngeal breathing; and nothing else but a narrowing of the chink of the glottis will produce it. Its distinguishing characteristics are, the sound, its long-drawn character, and the loss of the natural pause. The breathing is long-drawn, because it is impossible to draw in through the narrowed chink of the glottis a sufficient complement of air in a shorter time. The post-expiratory rest is lost, because, by the end of the tedious expiration, there is a pressing demand for another inspiration. The breathing is hissing, because of the force with which the air is driven through the narrowed strait.

In the second place, we noticed that the man was voiceless, and could do nothing but whisper. Now, whenever the voice is gone, we may be sure that there is something the matter with the larynx. A man has an aneurism of the arch of his aorta, and his voice is affected; a child has croup, and its voice is raucous or hissing; a patient is labouring under phthisis, and shows the characteristic hoarseness; a hysterical girl suddenly becomes aphonic; a man takes a cold, and his voice is gone. In all these cases, the larynx is functionally or anatomically affected; and it *must* be so, because in the larynx, and in the larynx alone, is the voice generated. The diagnostic indication is so precise because the seat of the function is so circumscribed.

But, further, we had not been at this man's bedside half a minute when we heard him cough, and his cough was as laryngeal as his breathing or his speech. Laryngeal cough is distinguished by three things; it is brassy in its tone, terminates in a hissing sound, and does not begin sharp. What gives it its peculiar metallic ring I cannot say; I do not know the acoustic principles called into operation. Its hissing termination is caused in the same way as the hissing breathing; and it does not begin sharp, because, owing to the thickened, irregular, and roughened condition of the lips of the glottis, perfect closure cannot be effected. We know that perfect closure of the glottis, so that the air may be shut up, for the parietes of the chest to be brought to bear upon it with explosive violence, is the first step in natural coughing. Where this cannot be done the cough begins indefinitely, and not with a sharp and sudden stroke; the commencing expiratory compression, instead of accumulating on the contained air till the glottis is suddenly opened, begins to drive it forth at once; so that the cough begins by a hissing expiration, just as it ends in one. The tight closure of the glottis, which commences the act of coughing, increases the expulsive and clearing power of cough just as damming up a stream accumulates a force which, when allowed to burst forth, scours the channel and carries everything before it. Where, therefore, the glottis cannot be closed tight, force cannot be accumulated upon the shut-up air, because it is *not* shut-up. Such cough, therefore, has lost its expulsive power, and is very inefficient; and we see such patients' embarrassments sorely increased by the inoperativeness of their cough.

Such cough as this is highly indicative of some condition of the glottis preventing perfect closure, and must inevitably exist whenever such a condition is present. But, should you ask me if it is pathognomonic of such a state, I say, decidedly not; for there is one other condition in which (in most of its features) it may occur, and in which I have known it to occur; and that is, in states of extreme debility, as when a patient is dying from some exhausting disease. I have often been struck, in such cases, with a cough very closely resembling the cough of laryngitis, as far as its indefinite commencement and sibilant character go. Here the glottis is not kept closed, because its muscles are so weak that they cannot resist the explosive force of the contained air, but yield the moment the expiratory muscles are brought to bear upon it. Whenever, therefore, I hear this well-known cough, I know that one of

two things exists: either the glottis is so weak that it cannot resist the slightest expiratory force, or its opposed surfaces are so anatomically altered that perfect closure is physically impossible. Which of the two is the existing condition, it is hardly possible in any case to doubt; still, we are just prevented from saying that such cough is pathognomonic of anatomical lesion of the glottis. In the last stage of phthisis, of which this cough is so eminently characteristic, I believe both causes are generally at work—debility of the glottic muscles, and roughening of the edges of the chink.

There are yet two other signs diagnostic of laryngitis that are present in this case. One is a sense of constriction across the throat, like a cord tied across the thyro-hyoid membrane; the other, the way in which the expectoration is got up. There is no cough proper. The way in which the phlegm is raised is by “clearing the throat”—what is called in the country “hawking” it up. I think I have heard it in London called “quilting”. Now, for this method of expulsion to be efficient, the mucus must be immediately below the *rima glottidis*, in the larynx; if it were down even no lower than the windpipe, I do not think this action would drive it through the glottis. If, then, prior to its expulsion, the mucus is always lodged in the larynx, there can be no doubt that it is *generated* there; and if generated there, the larynx must be the seat of the inflammation of which the mucous exudation is the result. The other signs of laryngitis, however, are so conclusive that this must be regarded rather as a concurrent clinical phenomenon, than as of diagnostic value.

Let us now say a word or two to you about the treatment of such a case as this.

The most pressing necessity, when we first saw this man, was to snatch him from the danger, which seemed hanging over him, of death by asphyxia. He was tugging the air into his lungs, and slowly driving it out again; and, with all his long-drawn efforts, breathing very imperfectly; and I felt that a little more narrowing of the glottis would jeopardise his life, and that such an increase of the narrowing might at any time occur. After, therefore, expressing to those about me the possibility that it might be necessary to resort to tracheotomy, I ordered that the patient should at once inhale, from an inhaler, the steam of boiling water. This is a remedy from which I have often seen the greatest advantage; and, certainly in three cases, the patient apparently snatched from impending suffocation.

The ward was warm, and the patient's bed next to the fire; otherwise I should have made him sit over the fire, and breathe the warm air. The temperature of the respired medium is of great importance in these cases. With the view to making the air that played over the glottis as warm as possible, I ordered the man to keep his mouth shut, and breathe exclusively through his nose. There is a great difference in the temperature of the respired air, according as it enters by the mouth or by the nose. In the latter case it is much warmer, as it is drawn through a labyrinth of passages among the turbinated bones and ethmoidal cells, and heated by the highly vascular membrane with which these are covered.

The next thing I did was to insure perfect functional rest, by forbidding any attempts at speaking,

and telling the patient to clear his throat of mucus as gently and as seldom as possible.

Another part of the treatment was counterirritation, by a blister over the thyro-hyoid space. Some advanced representatives of young medicine repudiate counterirritants altogether, on principle; and I believe, in the large majority of instances, they are right. But I think, in this particular case, counterirritants have a particular usefulness, acting as what I may call derivatives of the attention. The use of a blister in this case is, I believe, that of a mental rather than a physical counterirritant. There can be no doubt that a part is most completely at rest and most let alone when the attention is directed to some other subject, and that the direction of the attention to a part induces a constant fretting of it, by probing its condition, moving it, keeping it under surveillance, and altogether in a state of unrest. I think, too, that the direction of the attention to a part is of itself sufficient to “get up” a sensation in it. One of the ways, I am sure, in which pain is relieved by sleep is from the suspension of attention to the part. It was chiefly with a view to an effect of this kind that I ordered the blister to the throat—to relieve one part of the direction of the attention to it by directing the attention to another. Not but that it would also act as a source of warmth to the part.

The last thing I did was to order a couple of grains of opium to be administered, if the appliance of the other remedies should give sufficient relief to the embarrassment of the breathing to make the giving of opium safe.

No, this was *not* the last thing;—the last thing I did was to inform the house-surgeon of the man's condition, and to tell him to be in readiness in case he should have to perform tracheotomy in the night.

On coming the next day we found our patient much better; all anxiety had vanished from his expression, all duskiness from his complexion, his breathing, though still hissing, was no longer distressing, and he could lie down. Attempts at speech still issued in nothing but a whisper, and a slight occasional cough had the same hissing stridor; but the danger had passed away, we had tided over the critical point, and we felt that every hour made his condition safer. I ordered him a mixture containing quinine, chloric ether, and small doses of opium, so as just to keep him under its sedative influence.

From that time to this he has, with the exception of an intercurrent attack of slight bronchitis, gone on steadily improving, and now an unskilled observer would not detect that he differed in aught from a perfectly sound man. Just contrast his present state with what it was when he came in:—then, labouring for the niggard supply of air that he could draw through his narrowed glottis, pallid and anxious, and disturbing the ward by the stridor of his breathing; now with the aspect of perfect health, with even a ruddy colour on his lips and cheeks, and breathing as tranquilly and inaudibly as a sleeping infant.

Now, if you ask me to what I attribute this striking improvement, I should say—I attribute it partly to the warm and equable air of the ward, partly to the enforced silence and nasal breathing, partly to the inhalation of the steam, partly to the blister, partly to the medicinal treatment. And if you ask me which I

attribute the most to, I say—the *local* treatment. The condition at the period we saw him, and since, was essentially local, and local and not constitutional treatment is that which most affects it: especially do I attach value to that which gave the part functional rest and suspended all sources of irritation.

What is the real good that a sedative, such as opium, does in a case like this. Partly, no doubt, it directly relieves the local inflammation by lessening the pain and sensibility. Viewed by the light of modern physiology, and bearing in mind the direct superintendence which the nervous system exercises over the vascular system, we recognise in sedatives agents exercising a direct control over the inflammatory state. Experience teaches us that pain as inevitably produces the phenomena of inflammation as inflammation pain. Thus, pain the result of inflammation becomes pain the cause of inflammation. If, then, we put a stop to pain, we break through this pernicious reaction. This is the way, I believe, that opium is of so much value in serious inflammations; and I do not see why it should not be proportionately useful in mucous. But I believe the special relief that it gives in such cases as this, is partly by relieving (through lowering the irritability of the part) the spasm-element of the glottic narrowing, and partly by allaying cough. Cough, we know, involves firm closure and pressure of the lips of the glottis, and iterated cough involves iterated pressure: thus cough becomes a great aggravation of the irritability of the part, and putting a stop to it a negative source of great relief.

But is this man cured? Certainly not. He is snatched from immediate danger, and nothing more. This is his second attack, but it is probably not his last. Every severe cold that he takes henceforth will probably fall on his larynx, and the tendency of those repeated attacks will be to aggravation. Each attack leaves as its legacy a certain amount of permanent organic damage, and one of the inflammatory results—fibrinous exudation into the submucous cellular tissue—has a constant tendency to increase the narrowing by the contraction that it undergoes. There is looming in the distance a double danger—a danger that by repeated attacks the narrowing may gradually become so extreme that the air admissible may be insufficient to maintain life; and a danger that at any time life may be suddenly extinguished in the acute stage of a fresh access of inflammation. I have seen old catarrhal laryngitis terminate fatally in the former way; I have heard of many in which it has terminated fatally in the latter.

In conclusion, let me commend to your memories, as a summary of the teaching of this case, the following points:—

1. That laryngitis is one of the legitimate inflammations of catarrh.
2. That it is an exceptional incident of catarrh, because the rule is for catarrhal inflammation, for some reason or other, to leap from fauces and nose to bronchi, missing the larynx.
3. That the tendency of catarrh to implicate the larynx appears to depend on constitutional idiosyncrasy.
4. That a person who has once had it is very liable to have it again.
5. That the mischief arising from repeated attacks is accumulative, and leaves the larynx permanently damaged.

6. That the danger and symptoms alike arise from the anatomical and functional attributes of the part.

7. That the best treatment is functional rest and local sedation.

Addresses and Papers

READ AT

THE THIRTIETH ANNUAL MEETING OF THE BRITISH MEDICAL ASSOCIATION.

[Held in LONDON, AUGUST 5th, 6th, 7th, and 8th, 1862.]

ON THE NON-ALCOHOLIC TREATMENT OF DISEASE.

By JOHN HIGGINBOTTOM, Esq., F.R.S., Nottingham.

THE subject I bring before this Society is a practical one—On the Non-Alcoholic Treatment of Disease. I thought it a proper one for the British Medical Association, particularly at this time; as we know a controversy has been carried on in our JOURNAL since the last annual meeting, under the title “Is Alcohol Food or Physic?” I contended that alcohol was neither food nor medicine. One of the writers in that controversy said: “As far as I know, Mr. Higginbottom alone makes that assertion.” On that account, I consider it due to my professional brethren to give a brief statement of facts which have occurred to me in my own practice, and which facts have led me to form that opinion.

I have been for many years a diligent reader of works in which alcohol is recommended or prescribed as medicine and food, but have failed to gain information as to what those alleged medicinal or dietetic qualities are.

It is now generally admitted that alcohol is not an aliment; and, from daily observation for more than half a century, I do not consider it a medicine in the true sense of the word.

What is a medicine? It is a term derived from “*medeo*, to cure.” During my long practice, I have not known or seen a single disease cured by alcohol; on the contrary, it is the most fertile producer of disease, and may be considered the bane of medicine and the seed of disease. It is destitute of any medicinal principle implanted by the Creator in genuine medicines—such as emetina in ipecacuanha; rhein in rhubarb; jalapin in jalap; quinine in Peruvian bark; etc. Alcohol is the invention of man in the forms we use it, by the destruction of the good food God has given us—a poet says, by the agency of the devil:

“He joys to transform by his magical spell,
The sweet fruits of earth to an essence of hell;
Corrupted our food, fermented our grain,
To fannish the stomach and madden the brain.”

Shakspeare says: “O, thou invisible spirit of wine; if thou hast no name to be called by, let me call thee devil.”

The subject has occupied my attention since the year 1810. At that time, I was of opinion that alcohol in various forms—such as wine, brandy, ales, etc.—could not possibly be dispensed with in medical practice, but was absolutely necessary, and that nothing could be substituted for it in the treatment of some disorders and diseases. I believe many of my professional brethren are of that opinion at the present time.

I was educated in the opinion, that port wine was absolutely necessary in the low and sinking state of typhus and typhoid fever; and, in order to procure it for my poorer patients when I commenced practice, I was desirous of forming a wine dépôt, with the assistance of my