TWO LECTURES

ON

CHRONIC LARYNGITIS AND CHRONIC PHARYNGITIS: THEIR PATHOLOGY, SYMPTOMS, AND TREATMENT.

Selected from a Course of Lectures delivered during the Winter Session of 1885, at the Glasgow Royal Infirmary.

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LECTURE II.

GENTLEMEN,—At my last lecture, I drew your attention to some points in connection with the pathology and symptoms of chronic catarrh of the larynx and pharynx, and at the same time I brought under your notice a case in which, as a result of inflammation, the mucous membrane and the submucous connective tissue had become greatly increased in thickness. To-day I shall show you a case of follicular pharyngitis and laryngitis, associated with enlargement of the tonsils, elongation of the uvula, and complete aphonia; also a case of chronic atrophic laryngitis; and I shall indicate to you the remedies which should be employed in the treatment of such cases, and at the end of the hour I shall make some remarks regarding the constitutional treatment of those predisposed to catarrh.

The first mentioned case may be shortly described as follows. The patient is a boy, aged 14, who has suffered for some time from discomfort about the larynx, always troublesome, but seldom amounting to actual pain. He has a slight cough, with scanty expectoration, which is frequently mixed with saliva, and he complains of a difficulty in swallowing, a fulness and stiffness about the throat, and he suffers from the sense of the presence of a foreign body in the larynx, which sometimes gives rise to a persistent tickling cough, particularly at night and in the early morning. When first seen at the dispensary, he suffered from complete aphonia.

On inspection, the mucous membrane of the fauces is seen to present an irregular granular appearance; small pale reddish nodular prominences cover the surface of the mucous membrane, and these are in many instances surrounded by zones of injected vessels. It is with difficulty that a good view can be had of the larynx, on account of the local irritation; but, as far as can be ascertained, the aphonia is the result of paralysis of the adductor muscles of the vocal cords, and the mucous membrane of the larynx is affected in the same way as that of the pharynx. The tonsils are considerably enlarged, irregular, and deeply marked on the surface, and firm in consistency. They almost meet in the middle line when the mouth is open, and are separated from one another only by the relaxed uvula.

This, gentlemen, is a case of follicular pharyngitis and laryngitis in its early stage, complicated by enlargement of the tonsils, and elongation of the uvula. It is quite evident that the latter conditions should be attended to first; and what I intend to do is this. I shall reduce the size of the tonsils by the repeated application of the actual cautery, in the same way as you have seen me use it in several other cases; and after the tonsils have been sufficiently reduced, I shall, if necessary, remove a portion of the uvula, either with a pair of curved scissors and vulsellum-forceps, or by the uvulotome; and I will then proceed to treat the conditions of the larynx and pharynx. Without first improving the condition of the tonsils and uvula, and so removing a constant source of irritation, any attempt to cure the disease of the larynx and pharynx is certain to prove unsuccessful. Suppose, however, that you have a case of uncomplicated follicular catarrh; or, suppose, a month hence, you have to treat the case I have just described, when the tonsils and uvula have been restored to their normal size; what should you do, first, as regards internal remedies, and second, in respect to local applications?

During the early stage, you will find great good derived from the internal administration of iodide of potassium and the local application of tincture of iodine, and the employment of a gargle or spray containing chloride of sodium, bicarbonate of sodium, and chlorate of potassium. When, however, the granulations are large in size, firm

in consistency, and numerous, it is necessary that they should be destroyed separately; and the method which I would advise you to adopt is the one recommended by my late friend and predecessor, Dr. David Foulis, namely, the actual cautery. You have frequently seen me apply it in such cases, and I am sure you must have been astonished by the fact that the patients seldom complain of much pain after its use. It is, to my mind, a much simpler method of destroying the granulations than any other at present in use. The electric cautery has certainly its advantages in hospital practice; but in the treatment of private cases outside of one's own consulting-room, it has certain inconveniences which practically exclude it from general use.

For cauterisation of the pharynx and tonsils, a few months ago, I adopted M. Paquelin's thermo-cautery, and now use it in preference to any other instrument. The point of the thermo-cautery is rounded, and not larger than a small pea, and is attached to a handle nine inches long. In using the instrument, a small speculum, just large enough to allow the cautery to pass through it, is introduced into the mouth, and its point placed against the part which is to be destroyed. The thermo-cautery, raised to a white heat, is then passed along the speculum, and held in contact with the granulation or diseased tonsil for a single moment. By using the speculum, the danger is prevented of burning other parts than those which are intended to be cauterised, and, by employing the thermo-cautery at a white heat, the pain of the operation is reduced to a minimum. The pain, indeed, is so slight during the operation, that, on several occasions when I have applied the cautery at a white heat, the patient complained more of the irritation of the speculum against the pharynx than of the burning by the cautery. The pain after the operation is not more severe than when caustic applications are used.

We may now inquire into the case of chronic atrophic laryngitis. According to the statement of the patient, his "trouble commenced as far back as September, 1882." At that time, he was superintending experiments in the manufacture of sulphate of ammonia, and at this work not only was he required to subject himself to great variations in temperature, but he also had to breathe air loaded with irritating vapours. At first, the local sensations were not very marked. He then complained only of a slight roughness and dryness about the throat, accompanied occasionally by a tickling cough, without much expectoration, except in the morning. During the succeeding winter, the patient was engaged superintending the erection of gas-plant at Wantage, in Berkshire, and was exposed to cold and changeable weather. Towards the beginning of 1883, the symptoms became aggravated, and the alteration in the voice more marked. At that time, the patient found, when he attempted to sing (he was at one time a good singer), that he could scarcely take a single note, although there was then no very marked alteration of his voice as observed in ordinary conversation, unless he overexerted it, either by talking for a long time or by speaking loudly. When the voice was used unduly, considerable fatigue was experienced; the voice became hoarse, and on several occasions he suffered from complete aphonia. During the summer of 1883, the patient's condition was greatly improved by a prolonged residence in the country and rest from work; but, soon after his return to business, late in the autumn of 1883, he suffered from an acute attack of laryngitis, accompanied by a moderate bronchial catarrh; and when this acute attack passed off, the old symptoms from which he suffered returned, and persisted during the whole succeeding winter. The only fact of importance during this period was that the expectoration, from being small in quantity, became gradually increased in amount, and whereas formerly it was of a whitish grey colour and of viscid consistency, it now became more fluid; and on several occasions, during a period of three months, the sputum was observed to be streaked with blood. During last summer (1884), he experienced no improvement; and on October 4th he was admitted into the Royal Infirmary, suffering from a subacute attack of bronchitis, for which he was treated by Dr. Perry; and after he recovered from this illness, he was placed under my care on account of the laryngeal condition.

On laryngoscopic examination, the mucous membrane of the larynx was observed to be in a state of hyperæmia, the injection of the vessels being most marked at the base of the epiglottis and at the vocal cords. There was no very marked change in the mucous membrane of the fauces beyond slight hyperæmia; but the soft palate was very thin and flaccid, and presented a dry glistening appearance. The mucous membrane of the larynx, instead of presenting the normal pink velvety appearance, was dry and glistening, smooth, and covered at parts by thick viscid mucus. The aryæno-epiglottidean folds and the interaryænoïd fold were, however, considerably thickened, and, just at a point intermediate between the two aryænoïd

cartilages, a small erosion, extending through the epithelial layer, was seen. The vocal cords were greatly indurated, irregular in outline, and at the posterior extremity of the left cord, close to the arytaenoid cartilage, there was a deep ulcer with thickened edges, which prevented the cords from coming into complete contact during phonation. On the anterior third of the right cord, there was the mark of an old cicatrix, which interfered slightly with the contour of the cord. This cord was also paralysed, and the left cord was dragged across the middle line; so that, when the glottis was closed, it presented a peculiar oblique and irregular appearance, oblique because of the partial paralysis of the adductor muscles on the right side, and irregular from old ulceration and the contraction of cicatrices.

The following note was made on January 28th.

"Since the patient was admitted to the hospital, according to his own statement, he has improved considerably. There is less pain now during phonation, and the characters of the voice are altogether improved; when he was admitted, aphonia was complete, whereas at the present time, although the voice is hoarse and very harsh, still phonation is distinct during ordinary conversation. When the patient overexerts himself, however, either by prolonged speaking or talking very loudly, the voice becomes cracked and not to be depended upon. With moderate exercise, and particularly in the evening, the voice is very good, so that, to use the patient's own words, he hardly knows that there is anything the matter with his throat. When silent for some time, as, for example, in the morning, he finds considerable difficulty in forming words. A laryngoscopic examination made to-day shows that in some respects matters have improved, while in others they remain very much as they were on admission. The ulcer situated on the interarytenoid fold has now completely healed, and its situation is marked by a very small cicatrix. The contour of the true cords is more regular, and they meet almost completely during phonation. The small vessels supplying the mucous membrane of the larynx are still enlarged and hyperemic. The surface of the mucous membrane is dry and glistening, and on the left superior thyro-arytenoid fold there is a small erosion of the epithelium."

In all the three cases which I have shown to you, the patients suffered, when admitted to the hospital, from complete aphonia, and in each case the loss of voice was due to different causes. In the first case, it was the result of thickening of the ventricular bands; whereas, in the latter case, the aphonia was caused, partly, no doubt, by the ulceration and rigid condition of the cords, but also by thickening of the interarytenoid fold, and the paralysis of the right vocal cord. In the second case, it was due to a paralysis of the adductor muscles of the larynx from exhaustion.

I have quoted these three cases, instead of entering into a general description of the diseases, because I consider the cases to be typical; or, in other words, they represent the structural changes most frequently met with in chronic laryngitis and chronic pharyngitis; and, moreover, you have the advantage of seeing and observing the laryngoscopic appearances for yourselves. It is upon your accurate appreciation of the structural changes associated with each disease that your diagnosis must rest; there is nothing absolutely distinctive in the symptoms, but the laryngoscope, as you will see, easily reveals the true nature of the disease.

Now, gentlemen, while the above statement is true in a considerable number of the cases which will come under your notice, I may say that, in chronic laryngitis, the voice is affected earlier in the history of the disease, and the alterations in the voice are more marked, than when the pharynx alone is involved. In chronic pharyngitis, on the other hand, the patient suffers more from a feeling of constriction, and difficulty or pain in swallowing; but, although there may be hoarseness and feebleness of the voice, and pain when an effort is made to articulate, there is seldom complete aphonia. This fact can be easily understood, when you remember that the aphonia in chronic laryngitis is most usually caused by a lesion which interferes with the mobility of the parts concerned in articulation, such as thickening or oedema of the superior thyro-arytenoid ligaments, of the aryteno-epiglottidean folds, or the mucous membrane of the ventricles of Morgagni. You may, however, have complete aphonia without any intralaryngeal lesion, as some of you saw in a patient (a school-teacher), who has been attending the out-door department for some weeks, and has now completely recovered her voice; and in this boy, who is at present under treatment in Ward X for chronic enlargement of the tonsils, you have an example of aphonia without any apparent mechanical obstruction to the movements of the larynx.

As regards the treatment of chronic atrophic catarrh of the larynx and pharynx, I may say that few diseases demand such a multiplicity of resource as it does. But, while you may try many agents, there are few remedies so good as those I am about to mention to you; in many

cases they are of great service, in others, however, they seem to do little good.

For this form of catarrh, when the pharynx is involved, you should apply a strong solution of carbolic acid to the part; a ten per cent. solution of pure carbolic acid in glycerine, is the best preparation to employ when the mucous membrane is dry, and the quantity of secretion small. In cases of laryngitis, instead of using carbolic acid, solution of nitrate of silver (one drachm and a half to the ounce of water) should be carefully introduced into the larynx by means of the laryngeal douche. For the first week, the application should be made daily, or even twice a day. During the second week you may use it less frequently, say every second day, and so on, gradually increasing the length of the intervals.

Simple or medicated steam-inhalations are, in my experience, of very little use; but the employment of a spray of five grains of sulphate of zinc to the ounce of water is often beneficial, when combined with the treatment I have just mentioned. When there is pain in the larynx or surrounding parts, blisters, applied externally in the same way as I advised you to employ them in cases of catarrh during its early stage, are often of great use.

We may now pass on to the consideration of constitutional treatment; and I will ask your attention, in the first place, to some points in general domestic hygiene to which you will find it necessary to attend. The points in the management of patients who are liable to attacks of catarrh I may state broadly.

First, the temperature of the skin and of the inspired air should be kept as equable as possible, not only during the twenty-four hours, but also during the various seasons of the year. Secondly, the action of the skin should be stimulated as far as possible. Thirdly, the diet should be carefully regulated. And, fourthly, if there be any obvious cause, either external to the individual or depending upon some internal condition, which may keep up the irritation of the mucous membrane and the consequent catarrh, it should be attended to.

In order to maintain the uniform temperature of the skin, it is necessary that underclothing should be made of a bad conductor of heat; that the suit of underclothing should vary according to the season of the year, and that it should cover the entire body, with the exception of the hands, and head and neck. In a climate such as ours most people, but especially those who are liable to suffer from catarrh, should cover the entire body with some woollen material during the whole year; but the weight of the garments, or the proportion of wool contained in them, must vary according to the temperature of the atmosphere. One frequently meets persons who wear comparatively little underclothing, and this error is almost as common amongst the rich as among the poor. Many affirm that they cannot wear flannel or woollen cloth next the skin; in such instances, silk or washed leather may be substituted. The great object should be to keep the skin at an uniform temperature, and prevent the underclothing from becoming moist with perspiration. Persons who are subject to catarrh should be careful to change their underclothing frequently, and always change on going to bed, a fresh suit being worn the following day. It is also necessary that every article of clothing which may become damp should be changed as soon as possible; this remark is specially applicable to the coverings of the feet and lower extremities.

It is also necessary that the patient should breathe an atmosphere of uniform temperature. The bedroom should be warmed by means of a fire, especially in cold and damp weather. This is a precaution which is frequently neglected. How common it is for even those who suffer from chronic catarrh to pass from a well heated public room, to undress in a bedroom where the temperature may be 20° or 25° Fahr. lower. Most patients cannot leave this country during the winter season; in such cases, if possible, they should remain indoors in cold and damp weather, or when they go out, wear a respirator. Cold winds and night-air should be carefully avoided.

The functions of the skin should be scrupulously attended to and maintained in an active state, by the employment of either a douche or spray, the bather's feet being kept warm by being placed in hot water, while the rest of the body is being sprayed or sponged with cold water. Brisk friction should then be employed, and the body dried as quickly as possible. Sea-bathing should not be indulged in as a rule.

The question of diet is one of great importance, for undoubtedly a large number of the cases of catarrh trace the origin of their suffering to dyspeptic disturbance. I have not sufficient time at my disposal to go into this question fully; I shall therefore only indicate very briefly the points which should be attended to.

Meals should be taken regularly, and not at too long intervals; the diet should be at all times nutritious, especially if there be much

emaciation; the quantity of sugar taken should be reduced to a minimum, and the patients should partake freely of fresh fruits and vegetables, while such articles of food as potatoes and rhubarb should be avoided. As to the use of stimulants, no definite statement can be made; each case must be judged of on its own merits. In old persons, or in patients with a feeble circulation, alcoholic stimulants are of service; and probably there is no better one than whisky in small quantities, twice a day, in aerated water. Tobacco-smoking is positively injurious in all cases of chronic catarrh.

The only other particulars which I have now to consider are some of the external influences or internal conditions upon which the catarrh may depend. The former I mentioned when considering the etiology of the disease; it is not necessary, therefore, for me to allude to them now, further than to say that, as soon as the immediate cause of the affection is discovered, the removal of the patient from exposure to it is the first thing called for.

There are, however, some constitutional conditions with which the various forms of chronic catarrh are associated, which demand your attention; and amongst these I may mention struma, gout, rheumatism, certain nervous affections, and cardiac diseases, which, by inducing congestion of the mucous membrane, keep up the symptoms of catarrh. Anæmia also is frequently associated with chronic catarrh of the larynx or pharynx.

These conditions must, in all cases, be looked for, and when detected, they should be treated according to their requirements. In the great majority of cases, tonics are called for; and iron, especially its astringent preparations, is of great value, particularly when combined with quinine and strychnia. Cases of dry catarrh are frequently associated with gout, a disease we very seldom see in Glasgow; and in such instances, the greatest possible good is said to be derived from the administration of colchicum and alkalies; whereas, in cases where the quantity of mucus secreted is large, you will find that the patient will derive considerable relief from the use of lozenges containing half a grain of cubebs, one to be taken every three or four hours.

AN ADDRESS ON THE INVESTIGATION OF THE CAUSES OF CANCER.

*Delivered at a Combined Meeting of the East Anglian, South Midland,
and Cambridge and Huntingdon Branches.*

By HENRY T. BUTLIN, F.R.C.S.,
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ALMOST at the same time at which I received a very kind invitation from one of your secretaries, Dr. Elliston, to speak on the subject of cancer at this meeting, I received a note from Professor Humphry, containing a suggestion that, with a view to restrain the discussion within practicable limits, I should speak "especially with reference to the prevalence of the disease in East Anglia."

I should have been very pleased to have carried out this suggestion, had it been in my power to do so with advantage. But, in truth, it is not in my power; and, had it been so, the chief, if not the only reason for my presence here to-day might have ceased to exist. Of the prevalence of cancer in East Anglia, I know no more than Mr. Haviland's map of the distribution of cancer shows; and, in that map, some parts of this and of the neighbouring counties appear to be very free from cancer, while other parts appear to furnish a very large number of cases. I have brought the chart with me, and hope to hear from the members who are present how far they regard it as correct, with all other information on the subject which they may be able to offer.

But, first, I will ask permission to draw the attention of this meeting to the circumstances which led to this inquiry on cancer, and to what may be the outcome of it.

After instituting several inquiries on subjects chiefly medical, it was thought desirable by some of the members of the Collective Investigation Committee that an inquiry should be founded on a surgical subject; and Dr. Mahomed invited me to propose a subject suitable for investigation. I suggested the subject of cancer, partly on account of the interest which it has ever had for myself personally, partly because attention has on several occasions within the

last two years been directed to the increasing mortality from the disease, which is apparent on the returns of the Registrar-General. Two papers were published during the course of 1883 and 1884, one by Mr. H. P. Dunn, the other by Mr. Bowreman Jessett; both of them pointing out the increase of cancer in the kingdom, both of them resting on the statements of the Registrar-General, both of them containing theories to account for the continual increase. Mr. Dunn says that the increase is due "(a) to the success attending the legislative measures and other means for the preservation of the infant population, by which a large proportion of persons reach adult age, and the general healthiness of the community is increased; (b) to the greater prominence which, in the present day, prevails of the most predisposing causes of the disease—such as the fecundity of women, the prevalence of high nervous tension, and the existence of possibly greater general luxury in the mode of living."

Taking the second of these propositions first, there is absolutely no proof at present that very fruitful women and highly nervous people are peculiarly liable to cancer; nor is there any reason to believe that the offspring of the very fruitful and the highly nervous are more susceptible than other persons to the disease. The answer to the first proposition lies on the face of it: the success with which infants are reared is no certain index to the general good health of the community; and it might much more reasonably be maintained that the bringing to adult age of vast numbers of delicate infants is far more likely to lower than to raise the general standard of health throughout the country. The large number of cancers which are registered in many of the most populous towns is surely not consistent with the theory that cancer is a disease of persons in robust health; and a very limited experience of cases of cancer suffices to prove that it is not partial in its attacks, but affects the weak and delicate as frequently as the strong and healthy.

Mr. Jessett is more cautious in the conclusions he deduces; but he is a strong believer in the inheritance of cancer, and in the predisposition to the disease caused by mental strain and worry. He does not, however, furnish any proofs of the correctness of his views; and when he asks the question, "Do not the statistics which I have placed before you (namely, those of the Registrar-General) tend also to prove that cancer is passed down from generation to generation?" the reply must unhesitatingly be "No, they do not tend to prove the inheritance of cancer; they tend to prove that cancer is increasing, and that the causes of cancer are either increasing, or are acting with continually increasing vigour."

But, while I am not content to accept the views of Mr. Dunn and Mr. Bowreman Jessett, or the conclusions which they draw from the statements of the Registrar-General, I must thank them for having pointedly drawn attention to the increasing mortality of cancer manifested in the Government returns. On that account their papers are very valuable, for they have been in the hands of many persons of our profession who would not be likely to study attentively the Government statistics, or even to read the remarks by which the statistics are prefaced by the Registrar-General.

Of course, it is always possible to object to the Government-returns on the ground that it is impossible they should be absolutely accurate, that even careful medical men are liable to error in diagnosis, and that many cases of reported cancer are not truly cases of that disease. The Registrar-General himself appears to consider that a part at least of the increased mortality observable in his statistics may be attributed to causes of such a kind, but rather to improvement in medical knowledge than to the reverse; for in 1881, he says: "The death-rates from cancer were at their maxima, doubtless owing to increased accuracy of diagnosis, by which the deaths ascribed to definite causes are always increasing at the expense of the indefinite class."

I am quite ready to admit that the Government-returns cannot be absolutely accurate, nay, that they are probably, necessarily, far from accurate; and I am quite ready also to admit that a better knowledge of diagnosis may enable practitioners to classify under the head of cancer a certain number of cases which were formerly left unclassified, or placed under some other head. But it must not be forgotten that increased accuracy of diagnosis may act in the opposite direction, and may lead to the classification under other headings of a certain number of cases which were formerly classified as cancer.

Thus, of external affections, cases of tuberculous ulcer of the tongue are far less likely now than formerly to be confounded with cancerous ulcers. Even admitting that the returns are larger than they ought naturally to be, by reason of some such causes as these, it can scarcely be maintained that the large and continuous increase which is manifested is wholly fictitious.

It occurred to me some time ago that the surest method of discovering the truth would be to compare the returns of some of the