THE HARVEIAN LECTURES

ON

PROGNOSIS AND TREATMENT IN PULMONARY
TUBERCULOSIS.*Delivered before the Harveian Society of London, November, 1900.*

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[ABSTRACT.]

LECTURE I.

In choosing a subject for these lectures one cannot but be influenced by the name and work of Harvey. He employed a combination of the methods of Bacon and Newton, and essentially insisted upon observance of facts, making his theories subservient to them. His method I intend to follow in these lectures, and while in the earlier parts giving you facts and such conclusions as I can make from those facts, I wish in the last lecture to take advantage of Harvey's great discovery, the circulation of the blood, and to show how it may be used for the practical purposes of life. I will give you facts, from experience of some 22,000 cases at the Brompton Hospital, others elsewhere, from the *post mortem* rooms of the Brompton and St. Mary's Hospitals and the Manchester Royal Infirmary, in which institutions I was pathologist, and finally I will tell of results I have obtained by experiment upon myself and (by the kindness of my colleague, Mr. Plimmer) upon animals, which bear upon the treatment of the disorder. I wish to not go beyond these facts and the reasonable conclusions from them.

For prognosis to be in any way accurate we must have a perfect diagnosis, not merely the naming of the disease, but a knowledge of its whole nature and course. This can only be obtained by perfect observation. In discussing the prognosis and treatment in pulmonary tuberculosis we must be careful in the first place to define the disease. We must not include many of the cases roughly designated "phthisis" or "consumption," though these terms may accidentally be employed, but we must clearly understand that we are dealing with a disease produced essentially by the presence of the tubercle bacillus. And yet this germ does not act alone, for after its first onset it is accompanied and aided by the staphylococcus pyogenes and the pneumococcus, the one causing suppuration and the other pneumonia. The condition preceding the presence of these germs—the so-called pre-bacillary stage of phthisis—is not to be considered in these lectures. When the tubercle bacillus has once got ground in the lung, we ought to think of the lung and general condition, not in the terms of physical signs, but in those of pathological processes. Therefore, I suggest that we should discuss our subject under the heads of (1) invasion, (2) progress, (3) result, and this classification, although aiming mostly at the action of the tubercle bacillus, also includes the progress of its congeners. The various stages may be combined in any individual case. Prognosis, however, must be influenced too by the power of the body to resist the invasion.

We must consider, too, how far prognosis can go. In the first stage we may, by good fortune, and possibly by art, obtain absolute cure, though further outbreaks, such as occurred in the past, are possible in the future. In the second stage, we may still get cure, but with some little damage to the lung tissue, which may, however, be of little consequence. But in the third stage there has been caused damage to the lung tissue which is irreparable. The damage may not be so great as to much inconvenience the patient in the ordinary processes of life, but it leaves him without a pulmonary reserve, and moreover conduces to complications—particularly pulmonary hæmorrhage, which may end the patient's life. All these points must be estimated, and with them, too, the prospect of duration of life, and comfort while the life lasts.

The prognosis will be discussed under the headings, in each stage, of (1) nature of physical signs, (2) localisation of the signs, (3) antecedent conditions, and (4) individual symptoms.

1. Lack of resonance, deficiency of breath sounds and move-

ment, but without adventitious sounds—and all these limited to one apex—form the most favourable presentation. Probably they mean slight collapse of air vesicles from early catarrh. Further development of this condition is shown by a decrease in area of the apex on the affected side, as found best by auscultatory percussion. This is not so favourable. But the presence of adventitious sounds increases the gravity of the case. The finer the *râles* heard the better for the patient. Coarse bubbling *râles* are eminently unfavourable for him. The greater the lack of percussion resonance the worse is the prognosis, provided, however, that emphysema does not mislead the observer, and this may especially occur in one of the most unfavourable onsets, that of so-called emphysematous phthisis.

2. The localisation of the signs is of extreme importance. At the apex alone they carry the more favourable prognosis. Basic tuberculosis of primary origin is rare, and the results I have obtained at Brompton from 22,000 persons examined would show it to be still rarer than has been hitherto thought, for only 60 out of 19,000 tuberculous patients had the base of the lung as the probable initial lesion. The rarity is unfortunate, for the occurrence of such lesion is the more favourable. Of course one must here distinguish between primary tuberculosis and the same affection grafted upon a pre-existent and unresolved pneumonia. It is important, too, to make sure that the basic tuberculosis is not really secondary to a latent primary lesion of the apex, which may be only very slightly marked. Such a secondary lesion is usually found at the upper part of the lower lobe, while the true primary lesion is generally found in the lower part. The limits of the lobe can be determined accurately by auscultatory percussion, as I have elsewhere described. Such localisation is of importance also when the middle lobe of the right lung, and occasionally a misplaced middle lobe of the left lung, chance to be the seat of the primary lesion. This is always unfavourable for the patient, probably because of some peculiarity in the circulation of such lobes. The cases beginning in this way are frequently rapidly fatal, and, if not, are very resistant to treatment.

Multiple initial lesions have a still worse prognosis, though here, again, care must be taken to distinguish between primary and secondary lesions. Lesion of the apex must nearly always be primary, whether it follows a lesion of the opposite apex or not. Yet it may possibly be secondary to infection through the blood current. Multiple lesions are unfavourable for prognosis, because of the greater damage to the lung tissue, the probability of still further damage in the future, and the certainty that they indicate a greater intensity of the tuberculous poison and a greater vulnerability of the tissues.

Certain forms of multiple initial outbreak are of great importance as being the most serious methods in which the disease can present itself.

The first I would call the multiple pleuritic onset, which is characterised by previous ill-health and fever, while on examination slight pleuritic rubs can be heard on careful examination. These cases are most unfavourable for prognosis, for consolidation previously undetectable soon appears in many sites, and following it there are soon destruction of lung tissue, hectic fever, and collapse.

The second of these forms is that described previously by Dr. Mitchell Bruce as "emphysematous phthisis." The patient complains of only bronchitic symptoms, and none but bronchitic signs can be found in the chest. But he is much emaciated, has occasional fever, and ordinary remedies are of no avail. He wastes and his strength rapidly diminishes. After a time the disease further develops, consolidation and softening appear, and the patient rapidly dies.

The third form, for want of a better term, I would describe as "latent pulmonary tuberculosis." The tuberculosis is active enough, but its pulmonary characteristic is latent, thus differing from those of the preceding forms. Physical signs generally mean chemiotaxic reaction of the tissues, while symptoms show invasion of the poison. Hence this form of onset, in which the physical signs of any kind are latent for a long period, and in which the symptoms on the other hand are well pronounced, is one of the most serious we can meet with. The patient has fever, emaciation, general illness, loss of appetite and weakness, and yet nothing wrong can be found in the chest by the most competent observer. The

diagnoses most usually made are influenza, subacute rheumatism or neurotism, but the apparent quiescence after a time gives place to a furious outburst and an early death.

3. Antecedent conditions. Chlorosis is rarely a precedent of pulmonary tuberculosis, as I have found from my statistics. But most tuberculous patients are pale, and yet some are not. Tuberculosis certainly attacks the apparently full-blooded, and then I find that on the whole, it must receive an unfavourable prognosis. I mean by full-blooded, not those who have the flushed cheeks and delicate skin ordinarily associated with "consumption," and who behind this appearance have, nevertheless, a condition of anæmia, but those who are stout and very florid. I find such persons do badly. They are more prone to repeated hæmoptyses and recurrent destructive pneumonias with high fever.

Deformity of the chest causes our prognosis of tuberculosis of the lungs to be the more unfavourable, not only because it hampers respiratory movement, but also because it is most frequently due to a previous tuberculous affection of the vertebræ.

But on the other hand I find that tuberculosis of the lungs attacking those who are the subjects of tuberculous glands is generally very slow in its progress and favourable to treatment. It is again the more favourable, because the glands can now in most cases be removed by the surgeon, and so one source of infection removed. I strongly discountenance any attempt at their dispersion by means of iodine applications, though, when the surgeon cannot deal with them, I have found nuclein, given orally, to act marvellously. The glands are reservoirs of tuberculous poison, but reservoirs which are most often shut off from the general system by hard inflammatory tissue.

The presence of lymphadenomatous or carcinomatous lesions with pulmonary tuberculosis is rare, but very interesting. The prognosis of the tuberculosis is not thereby affected. Pleurisy with serous effusion, as preceding an attack of tuberculosis, would seem, from my experience, to not increase the gravity of the tuberculosis. Naturally, I do not here refer to the pleuritic outbreak already mentioned. Again, too, we know at Brompton that a pleural effusion occurring during a tuberculosis is best left alone, if only it does not unduly hamper the lung movements. Empyema, on the other hand, when followed by tuberculosis—and this is surprisingly rare—increases very greatly the gravity of the tuberculosis.

I do not consider a precedent pneumonia to have at all an unfavourable influence on an engrafted tuberculosis. The tuberculosis, or its possible incidence, is a danger to the patient who has pneumonia, but the primary pneumonia carries with it no further risk for its consequent tuberculosis.

Similarly, tuberculosis of the lungs following that of the urinary organs is not increased in gravity by the infection of the latter. Rather the contrary, for it has seemed to me to pursue a slow course. It is strange how seldom the tuberculosis of the urinary organs is followed by that of the lungs, and probably this fact is due to difference of developmental membranes. Unfortunately the patient is generally in a hopeless condition before the lung trouble develops.

My statistics would show that family history of tuberculosis could comparatively rarely be obtained, but its coincidence increased the gravity of the case.

I found, too, that those patients who led open-air lives seemed to do better than those with sedentary occupations. Yet it must be remembered that the same persons were probably also originally the more robust.

MRS. WILLCOCK has given a donation of £1,000 towards the sum of £34,500 required for the enlargement of the North-Eastern Hospital for Children, Hackney Road.

The annual *conversazione* of the Royal British Nurses Association will be held at the Westminster Town Hall on Tuesday next at 8 P.M.

To mark their esteem and personal appreciation of the late Mr. Thomas Cooke, some of his friends and past pupils have recently presented to Mrs. Cooke a portrait of her late husband, together with a piece of plate. Dr. Dundas Grant was chairman of the Committee; Dr. David Walsh acted as honorary treasurer, and Dr. Wyatt Wingrave as honorary secretary.

MEMORANDA:

MEDICAL, SURGICAL, OBSTETRICAL, THERAPEUTICAL, PATHOLOGICAL, ETC.

THE HYDROSTATIC TEST OF STILLBIRTH.

THE following case may be of interest as illustrating one of the fallacies to which the hydrostatic test is liable as applied to newborn infants.

Owing to some unfounded rumours an inquest was held recently here on the body of a female illegitimate child, which was exhumed after being buried ten days. The evidence at the inquest went to show that the child was born rather precipitately, but the woman was attended by some neighbouring woman first, then by a medical man, and finally by the parish nurse, who all saw the baby alive, though weakly. The child lived about five hours.

At the *post-mortem* examination, which was done by myself assisted by the medical man who attended the mother, we found that the body presented the appearance of a child born at full term, and fairly well developed. On opening the chest the lungs were found collapsed, not filling the chest cavity, and in a state of complete "atelectasis." We resorted to the hydrostatic test, and found the lungs sank when both were immersed together, when immersed separately, or even when small portions were thrown in—in fact, presenting all the appearances of a stillborn child.

I was obliged to confess to the coroner that had I not the indisputable evidence of five different people on oath that the child lived five hours, I should be compelled to swear that the child was stillborn, and had never breathed.

The only explanation, I suppose, is that the infant kept its feeble hold of life by whatever aëration the blood received through the trachea and the larger bronchi.

Fermoy.

T. DILWORTH, M.D.

A CASE OF RODENT ULCER TREATED WITH PURE RESORCIN.

Mrs. S., aged 70, had been suffering from rodent ulcer on the left side of the nose for twelve years. The ulcer recently presented an irregular surface discharging pus, with indurated and thickened edges. It was about an inch and a-half in diameter, and nearly a quarter of an inch deep. It had involved the inner canthus of the eye, and the lower eyelid was everted.

I had previously tried resorcin in an ointment with perhaps some slight retardation of the rate of growth, but lately had simply contented myself with protecting the surface of the ulcer with lint, using boracic lotion, as nothing else seemed to do any good.

Having, however, heard of a case in which pure resorcin had been used with benefit in rodent ulcer, I determined to give it a trial. The powdered resorcin was first applied daily, but, as this became painful, on alternate days. Soon an improvement took place. The sore gradually became more healthy-looking; portions of it sloughed; it became smaller and shallower; its shape from being irregular became circular; and finally it healed up entirely. This took place after the application had been in use for two months. It has now been apparently soundly healed for over a month, with, of course, some contraction of the tissues.

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DEVELOPMENT OF RODENT ULCER FROM SEBACEOUS CYST.

THE accompanying illustration is taken from a photograph of a patient suffering from rodent ulcer. About five years ago I first attended the man in the out-patient department of the Clapham General Dispensary for chronic bronchitis. At that time he had an oval tumour about $1\frac{1}{2}$ inch long, which had the usual characteristics of a sebaceous cyst, on the right side of his forehead. I saw him at frequent intervals during the next two years, but the tumour showed no special alteration. About three years ago it became red, and presented indications of softening. I endeavoured on several occasions to get his consent to an operation, but on account of his age—then about 70—and his general feeble condition, he refused to