A CLINICAL LECTURE ON THE CURABILITY OF ACUTE PHTHISIS

(GALLOPING CONSUMPTION).

Delivered at the Western Infirmary, Glasgow.

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GENTLEMEN,—The term acute phthisis is frequently used in a very vague manner, and is applied to cases which have no title whatever to the appellation, as anyone can readily satisfy himself by a perusal of the medical journals. It is, therefore, important at the outset that I should specify the limited class of cases to which I am about to refer. By acute phthisis, then, I do not mean cases merely of short duration, nor chronic phthisis associated with more or less fever, nor those which, while running their course, suddenly develop acute symptoms. But I allude to cases of phthisis setting in suddenly, with high and continuous fever, great prostration, and profound involvement of the system, reminding one rather of typhus or a severe attack of typhoid fever than of a pulmonary affection. Indeed, in some instances it may be necessary to watch the course of the disease for some days before an absolute diagnosis can be made, so that the term "galloping consumption," used by many of our leading authorities, although not a scientific one, conveys to the mind a most accurate impression of the kind of disease with which we are dealing.

Such cases are comparatively rare, and are only exceptionally met with in hospital practice; not only on this account, but because the patients are supposed to be too ill to be removed, or, if removed, they are fully as likely to find their way into a fever as into a general hospital.

There are two forms of acute phthisis: (a) acute tuberculosis, and (b) acute pneumonic phthisis.

In acute tuberculosis tubercles are more or less copiously disseminated throughout the lungs, and often also in other organs. But the symptoms of acute phthisis do not appear unless or until these foreign bodies produce congestion or inflammation of the pulmonary tissues, and, if the patient lives long enough, breaking down of the lung tissue may occur here and there, with the development of small excavations. That the infiltration of the lung with tubercles does not necessarily lead to acute phthisis is proved by the occasional discovery, *post mortem*, of obsolete tubercles scattered through the lungs in the case of those who never experienced pulmonary symptoms during life.

In acute pneumonic phthisis the disease exhibits almost from the first a more or less extensive consolidation, most frequently of the upper lobes, which often spreads to other parts, and, instead of resolving in a week, like a croupous pneumonia, leads to rapid and widespread destruction of lung tissue, which soon terminates the life of the patient.

Prognosis.—A perusal of the literature of the subject leads to the conviction that authorities are very hopeless with regard to the prospects of sufferers from this disease, and, while I have read numerous records of fatal cases, I have never met with a carefully recorded case fulfilling the definition of acute phthisis, as I understand it, in which a complete restoration to health occurred. There are many, however, who hold that acute tuberculosis is the more certainly fatal of the two, while I am rather inclined to the opinion that acute pneumonic phthisis is probably the more dangerous, as it leads to such rapid and widespread destruction of the pulmonary tissue.

Including the case which follows, I have put on record seven instances of acute phthisis, all of them treated in a similar manner; and it is a remarkable fact that of the seven, five recovered. Of the two fatal cases, one was beyond the reach of recovery when he came under observation, his lungs being extensively disorganised, while in the other instance the fatal issue was due to the complication of perforation of the lung. There is an interest, however, in connection with the fatal cases in reference to diagnosis, for in both the *post-mortem* examinations showed

their tubercular nature. The cases to which I have just alluded¹ tend to show that if acute phthisis is grappled with early and energetically, and *with an expectation of success*, the prognosis is far from gloomy, and the more I see of the disease the more hopeful do I become.

Before reading the notes of our latest case let me give you a brief outline of the kind of treatment upon which, in my opinion, reliance may be placed, but it must be understood that no two cases can be treated exactly in the same way; each patient and his surroundings must be specially studied before deciding upon our line of action. The principal indications are—1, to keep up the strength; 2, to keep down the fever; and 3, to treat any special symptom or complication which may arise.

1. Two thoroughly-trained and reliable nurses are indispensable, one for day and the other for night duty; for without admirable nursing no hope of improvement can be entertained; and the hygienic and other surroundings of the patient should be satisfactory, so that we need not be surprised that, when the disease occurs in the homes of the working classes, it is almost necessarily fatal, and that hospital patients have the best chance of recovery. The patient must be fed constantly on fluid food (soup being avoided if diarrhoea is present) both day and night, and stimulants (from $\frac{3}{4}$ li to $\frac{3}{4}$ x) are required early in the attack, but should be given in small quantities, frequently repeated and along with the food. In fact, the dietetic treatment should correspond with that of a case of fever presenting symptoms of a similar degree of severity.

2. At bedtime a subcutaneous injection of sulphate of atropine (gr. $\frac{1}{100}$ to gr. $\frac{1}{50}$) is given. This checks perspiration when present, acts as a sedative to the system, indirectly helps to reduce the fever, and diminishes the secretion from the lungs.

3. Remedies are given with the view of lowering the temperature. This is a point of the utmost consequence, because the majority of the patients die consumed by the fever. Some benefit is derived by allowing the sufferer to suck ice freely, by giving the food and drinks iced, by sponging the body with iced vinegar and water, or even by using iced enemata. But our main reliance is upon one or more of the following methods:

(a) Niemeyer's antipyretic pill or powder every four hours, containing gr. 1 quinine, gr. $\frac{1}{2}$ to gr. 1 digitalis, and gr. $\frac{1}{4}$ to gr. $\frac{1}{2}$ opium. The proportion of opium may even have to be increased beyond this if there is much diarrhoea. The effect of the digitalis must be carefully watched, and it must be omitted for a time if the pulse becomes preternaturally slow and irregular and the secretion of urine very scanty.

(b) The administration daily—particularly shortly before the temperature tends to be highest—of from 10 to 30 grains of quinine, given, as suggested by Liebermeister, either in a single dose or, at all events, within an hour.

(c) The application of iced cloths to the abdomen for half an hour every two hours so long as the temperature exceeds 100°.

The application of iced cloths is made in this way: The nightdress is pulled well up over the chest so as to avoid any possibility of its being wet, and, for a similar reason, a folded blanket is placed across the bed under the patient's body. The usual bedclothes are arranged so that they reach up to the lower part of the chest only, which latter is covered by a separate blanket in order to prevent unnecessary exposure while the cloths are being changed. Two pieces of flannel are employed, each being sufficiently large when folded into four layers to cover the whole of the front and sides of the abdomen. One of these, wrung out of iced water and covered with a piece of dry flannel to protect the bedclothes, is applied, while the other is lying in a tub of iced water at the side of the bed. The pieces of flannel are changed every minute, or so often that they still feel cold when they are removed. The changing of the flannel, particularly when two persons are in attendance, one to remove the bedclothes and the flannel, the other to apply the piece which is freshly iced, can be accomplished in a few seconds.

I mention these apparently trivial details because I often see the process carried out in such a way as to be worse than useless, and because I have frequently been interrogated on the subject. But I think it right to add that I do not wish to lay too much stress upon the value of iced cloths by themselves, but to attribute the success of the treatment to the combination of measures employed. Of course the same precautions must be taken in using

¹ The first four cases were published in the *Lancet*, March 24th, 1887, p. 413, and March 31st, 1877, p. 451; and the fifth and sixth in the *British Medical Journal*, February 19th, 1881, p. 286. The seventh case is described later on.

left apex are coarser, and moist *râles*, diminishing in distinctness, are heard down to the very base of the lung.

December 1st, 1889 (eighth day of illness). The *râles* at the back of the lung are less distinct to-day. Bowels moved; motions loose and pale, but not offensive.

December 3rd, 1889 (tenth day of illness). At the left apex the dulness is more pronounced, and the movements there are distinctly diminished. For the last two nights the patient, who has been inclined to wander slightly all along, has been markedly delirious, talking constantly, and he has had very little sleep. The tongue is dry, coated, brownish, and tremulous.

December 4th, 1889 (eleventh day of illness). Bowels moved last night, the motion being solid, and nearly of the natural colour.

December 8th, 1889 (fifteenth day of illness). Patient's general condition is somewhat worse. He rambles constantly night and day, and sleeps very little. The hands tremble, and he occasionally fumbles with the bedclothes. The albumen, although diminished, is still present in the urine.

December 11th, 1889 (eighteenth day of illness). The *râles* have almost entirely disappeared from the front of the left lung, but they are abundant at the base posteriorly, and very similar in character to those which were at the apex. At the right base there is now some dulness on percussion, and an abundant, fine, subcrepitant *râle* is heard.

December 13th, 1889 (twentieth day of illness). On the right side a subcrepitant *râle* has now appeared at the level of the nipple. On the left side a sonorous *râle* is heard in the supra-clavicular, and a few faint mucous and sibilant *râles* in the infra-clavicular, region.

December 17th, 1889 (twenty-fourth day of illness). With the exception of a slight sibilus at the right base, the *râles* have entirely disappeared from the chest. Slight delirium still persists, although the temperature has for some days been subnormal. Patient is very drowsy, and sleeps constantly, being, however, easily aroused to take nourishment. The albumen in the urine is no longer present.

December 21st, 1889 (twenty-eighth day). All physical signs of disease have disappeared from the chest, and all special treatment by drugs has been stopped. He remains very prostrate, and there is still occasionally slight delirium.

December 27th, 1889 (thirty-fourth day). Though still very weak, he is picking up flesh and strength considerably, and is now perfectly conscious and observant of what is going on around him.

January 7th, 1890 (forty-fifth day). He has been steadily and rapidly improving and gaining strength, and has to-day been allowed, for the first time, to rise for an hour.

On January 23rd, 1890, I requested my colleague, Professor Gairdner, to examine this patient's chest, which he kindly agreed to do, and in a letter to me he says: "I have examined G. H., and find that there is nothing that can be very definitely stated as abnormal in the physical signs in his chest."

SOME RECENT RESULTS FROM THE STUDY OF LABOUR BY MEANS OF FROZEN SECTIONS AND CASTS.

[WITH LITHOGRAPHIC PLATES.]

Read in the Section of Obstetric Medicine at the Annual Meeting of the British Medical Association, held in Birmingham, July, 1890.

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PART II.—RESULTS FROM STUDY BY MEANS OF CASTS.

We have seen that freezing fixes structures as they were at the time of death; that a section lays bare relations under a given line, showing things just as they are—nothing being left to the imagination; that by making sections at short distances through and through the pelvis, and putting the results of all together, we make the pelvis practically transparent; and that by taking one section and repeating it in different cases at short intervals of time while labour is going on, we can follow the process all through, reading labour from stage to stage, as if we were turning over the pages of a book. But a section gives only limited information, inasmuch as it shows relations only in a given

plane. If, however, starting again from the frozen cadaver, we have casts made, we shall have a permanent record of the form of surfaces and also of bulk or capacity when we are dealing with a mass or cavity. We used this method, at Dr. Hart's suggestion, in the case of two of these preparations, the eighth-month pregnancy and the second stage of labour. As a section had already been made, the blocks (still frozen) were put together, but separated by plates of glass corresponding in thickness to the portions removed by the saw. The foetus, still frozen, was in each case then lifted out and a cast taken of it, the liquor amnii being then also removed from the genital tract, a second cast was taken of the tract itself, and it is these casts which we have now to study.

Figs. 1 and 2, Plate V (in the description on the Plate, for *side view* read *front view* and *vice versa*), give us, therefore, an accurate representation of the capacity and contour of the interior of the uterus at the eighth month of gestation, the foetus lying with the breech downwards. The uterus is pear-shaped. While its form suggests that of a pear, its dimensions are, however, more nearly that of a globe, the greatest vertical circumference being $22\frac{1}{2}$ inches and the greatest transverse $20\frac{1}{2}$ inches. The narrower lower segment is occupied by the breech of the foetus, and the fundus is more prominent to its right side over the foetal head.¹⁰ The lower segment bulges more downwards on the right side, because the breech position of the child's body made its left buttock lower than the right. The curvature of the uterus in side view is due to the moulding of its posterior surface on the promontory of the sacrum. The extent of the placental area is shown by the dark shading. The bulk of the cast is $137\frac{1}{4}$ cubic inches, which therefore represents the total cubic capacity of the uterine cavity.

The cast of the foetus is shown in Plate V, Figs. 3 and 4. The remarkable feature in it is the disposition of the limbs. The leg is extended on the thigh and the foot partially extended on the leg, so that the lower limbs are thrown up on the trunk and the toes stick out. While the forearm is flexed on the arm, the upper extremity as a whole is thrown out from the chest—this being more marked in the right arm, which was "held up" in an odd fashion, the fingers being extended at the metacarpo-phalangeal joints. The attitude of this foetus (partial extension) is the opposite of what we usually find *in utero*, and the occurrence of breech presentation along with it is noteworthy. I know no better explanation of the cause of the position of the foetus *in utero* than what William Hunter said: that the foetus is "adapted to the figure and circumstances of its habitation;" and the extension of limbs in this case makes the breech distinctly the smaller part of the foetal ovoid, which therefore, as Sir James Simpson¹¹ pointed out, accommodates itself to the narrower lower segment of the uterus. The bulk of the foetus is $111\frac{1}{4}$ cubic inches, and, deducting this from the cubic contents of the uterine cavity, we have rather more than a pint as the amount of liquor amnii and cord in this uterus.

The cast of the genital tract from the second stage case is given in Plate VI, Figs. 3 and 4. We have here to do with not merely the interior of the uterus, but with the dilated cervix and vagina as well; in fact, this cast shows the surface of the whole tract from fundus to vulva. The value of these plates cannot be over-estimated. They are the first drawings which have been obtained of the "fully-developed" genital passage. The child's head has descended to the vulva and is dilating it, the stretching of the perineum and anus being beautifully seen in the frozen section, Plate II, Fig. 1; in another pain it would have been born. We have, therefore, labour at its most interesting stage. Further, the membranes are ruptured, as they are not in the other sections described from this stage, and we can therefore follow their disposition after rupture; the preparation is unique.

After the cast had been taken, when the preparation was partially thawed, so that the os externum, the bladder, and the attachment of the membranes could be made out, we had the drawing given in Plate VI, Fig. 1, made; it is not of value for making measurements, because the margin of the os externum was lifted and the portion of the bladder within the pelvis artificially opened out so as to show these structures better, but it gives a very good idea of the appearance of the genital canal. The drawing of the placenta below (Plate VI, Fig. 2) was also made

¹⁰ As the foetus lay with its back anterior, the drawing of it in Fig. 3 is the reverse of that of the uterus in Fig. 1.

¹¹ While Hunter makes this statement, he also adopts the gravitation theory in another part of his writings as explaining why the foetus should be found head downwards. The condition found in this case goes entirely against the gravitation theory.