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# NEGLECT OF THE EARLY DIAGNOSIS AND TREATMENT OF PULMONARY TUBERCULOSIS.

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# NEGLECT OF THE EARLY DIAGNOSIS AND TREATMENT OF PULMONARY TUBERCULOSIS.[1]

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THE great importance of the early diagnosis of pulmonary tuberculosis has been forced upon my attention by finding so many tuberculous patients seeking the climate of Colorado long after their chances of recovery in that or any other climate have gone by. Considering it a matter largely preventable, by the profession realizing more clearly the causes of the conditions that lead to this unnecessary and lamentable loss of life, I have analyzed the last one hundred cases of pulmonary tuberculosis that have presented themselves for examination.

This inquiry has nothing to do with the influence of climate at an altitude or elsewhere (and the cases that have been gathered in the last few months are not considered in any way as to the results of treatment), but was undertaken to find how far the early recognition of the disease and its treatment affected the condition in which the patient came under my observation.

[1] Read before the Arapahoe County Medical Association, December 27, 1892.

After going carefully over the notes of each case I have made two classes. The *first class* includes those in whom the disease was diagnosticated and treated as soon as the symptoms, as described in the patient's history, showed the disease sufficiently developed to be recognized by any ordinary well-educated practitioner. By treatment as applied to this class is meant any means, hygienic, therapeutic, or climatic, that were seriously used—not that the treatment was necessarily of the best, but that the cases were taken in hand and the patient advised in a reasonable manner. The broad question of treatment or no treatment of the pulmonary tuberculosis is dealt with, and not its details or wisdom.

The *second class* includes those in whom the history exhibits the fact that the disease was not diagnosticated or treated for a period varying from a few months to several years after the time that the real nature of the malady had clearly revealed itself. The hundred cases are not in any way selected, but are taken in the order of their examination, tracing back from the recent time when this inquiry was commenced, and were limited to one hundred simply on account of time and labor; but I believe that if an analysis of the notes of all of my first examinations during the past eighteen years, the period of my practice in this locality, were made, the main bearing of the facts would be found the same.

DIAGNOSIS AND TREATMENT were delayed in 52 per cent., while in 48 per cent. the disease was promptly recognized and treated. The total average of delay was two years.

SPUTUM-EXAMINATIONS had been made in only

42 of the 100 cases, and in 7 of these not until some time after the disease was well advanced; so that it may be said that in 65 per cent. this means of diagnosis was neglected when most valuable. Of the 48 cases in which the disease was recognized and treated early, the sputum-examinations were omitted in only 13, while in the 52 cases of delayed diagnosis only 7 examinations were made, and then too late to be of practical value.

STAGE OF THE DISEASE.—Of the 100 cases, 37 were in the first stage; 28 in the second, that is, softening had commenced; and 35 in the third, that of tuberculization, when cavities could be diagnosticated.

Of the first class, 23 were in the first stage; 11 were in the second stage; and 14 in the third stage.

Of the second class, 14 were in the first stage, 17 in the second, and 21 in the third; so that of those who were cared for early there were 48 per cent. in the first stage, while in the delayed class there were only 29 per cent. in the first stage when they came under my observation.

RESULTS.—It is demonstrated by the statistics set forth in my article on "Climate,"[1] that the proportion of cures among the cases in the first stage treated in high climates, such as Colorado and the Swiss Alps, is 62 per cent., while in the second and third stages, taken together, the average is only 15 per cent. These figures show how greatly the chances of recovery have been lessened by the delay.

[1] System of Therapeutics, edited by H. A. Hare. Philadelphia: Lea Bros. & Co.

Family Predisposition.—In 50 of the 100 cases the patients showed a family predisposition to tuberculosis. In 141 cases that I have reported[1] the percentage was 58; Dr. Denison's 240 cases showed 51 per cent.; Dr. Fisk's 100 cases, 52 per cent.; Dr. Theodore Williams reported 44 per cent. among 141 cases, while in the 1000 cases collected by his father and himself the percentage was 48. These figures suggest that the percentage of these 100 cases now analyzed, viz., 50 per cent., is near the average.

In dealing with the question of family predisposition the degree of relationship is of importance; in these 100 cases, parents, grandparents, brothers, sisters, and two or more uncles or aunts, who had pulmonary tuberculosis, are considered as showing family predisposition. Family predisposition was found in 29 per cent. of the first class, while it was found in only 21 per cent. in the second class, viz.: those in whom there was delay. This fact tends to confirm the opinion that I expressed in connection with the 141 cases referred to, that the knowledge of an hereditary tendency makes the patients seek and receive earlier treatment, and also exhibit greater attention in following it out; consequently, better results are obtained than among the non-hereditary cases. In the class in which treatment was delayed the hereditary cases show that there were 29 per cent. in the first stage, while among the non-hereditary there were only 26 per cent.

The average delay among the hereditary cases

[1] Transactions Climatological Association, 1890.

was 2 years and 5 months, among the non-hereditary 1 year and 10 months. This fact suggests that the disease tends to run a more chronic course among the hereditary cases, which, if true, may be explained by the theory that the family predisposition acts often like vaccination or inoculation, in granting a modified protection, so that the disease is slower to advance. The slightly better results among the hereditary may also possibly be due to inheritance granting a greater power of resistance, as well as teaching greater caution to the individual possessing a family history of tuberculosis.

The whole question of family predisposition, however, requires much more analysis and discussion than the limits of the present article will allow, and its full consideration would lead us away from the more practical matter of how to secure earlier diagnosis and treatment of pulmonary tuberculosis. For instance, the late experiments of Héricourt and Richet[1] upon dogs, which indicate that inoculations with tubercle confer more or less immunity, bear upon the subject. Then, again, under cover of the title, family predisposition, we have two distinct possible causes, though they may be often, and are, perhaps, always more or less allied. These are the direct transmission of tubercle-bacilli through the placenta, or the milk, and the inheritance of a physique favorable to the reception and the growth of the bacilli.

If the family predisposition is shown in the parents, and possibly in the grandparents, assuming the tuberculosis to be latent in the parents, we might

[1] Gaz. Méd. de Paris, October 22, 1892.

have direct transmission, with more or less inherited susceptibility of physique. On the other hand, if the family predisposition was shown only in uncles or aunts or brothers or sisters, a susceptible physique would appear to be the only cause through inheritance.

NATIVITY.—In 80 of the 100 cases the patients were natives of the United States; 20 were born in England. Fifty-five per cent. of the American cases showed a family predisposition, while it was exhibited in only 30 per cent. of the English cases.

From previous observations I am inclined to think that a similar proportion of hereditary cases will always be found among the English and Americans, though it requires a much wider analysis to confirm this opinion. In the first class, *i. e.*, those who received immediate treatment, the American hereditary cases were 70 per cent., the English 43 per cent., while the total proportion of Americans in the first class was only 44.5 per cent., and of the English the proportion was 70 per cent. These figures would indicate that among English tuberculous patients the disease receives earlier recognition and treatment; and this point is also brought out in my paper already mentioned, in which the results of treatment are also shown to be better among the English than among the Americans. All this tends to confirm the importance of early diagnosis and treatment.

DIAGNOSIS.—We now deal with what to many is as tedious as a twice-told tale—how to make a diagnosis of early pulmonary tuberculosis; for the handbooks of Da Costa, Vierordt, Fenwick, Tyson, and

many others tell us well and clearly how to do this. But why is it not done? Ruling out the cases in which the physician is not consulted in time, or in which he is ignorant or deliberately indifferent, it appears to me, from inquiry into the beginnings of a large number of cases of pulmonary tuberculosis, that the chief reasons are as follows: Among many of the laity and a few of the profession there lingers the old idea that pulmonary tuberculosis is a hopeless disease, whereas of some 5000 cases treated in various parts of the world, including elevated regions, and many of them some years ago, when the treatment was inferior to that of the present day, about 47 per cent. of cures were in those who were in the first stage.[1] And I have no doubt that at the present time, with earlier diagnosis and wiser treatment, the showing would be better. As has been stated, those cases in the first stage that were treated in high climates show 62 per cent. of cures, while 87 per cent. were benefited; so that I believe it quite reasonable to say that in early pulmonary tuberculosis the chances of recovery are at least equal, and the earlier the diagnosis is made the greater are the chances. The percentage among the averages alone, in which improvement takes place, is undoubtedly higher.

As these statistics include those very grave cases of acute tuberculosis, and those whose poor physique and other disabilities render their chances slight, the average of improvement is brought down considerably. One of the reasons why pulmonary tuberculosis

[1] Article on "Climate," System of Therapeutics, edited by H. A. Hare, M.D. Philadelphia: Lea Bros. & Co.

was believed to be hopeless was that before Koch's great discovery a patient was not believed to have the disease until the consuming process was well advanced. We must remember how Niemeyer, writing of what he termed chronic catarrhal pneumonia, spoke of the danger of its becoming tuberculous, whereas now we know that tubercle either preceded the inflammation or was quickly engrafted on it, giving it its chronic character. Then the cases of limited tuberculosis, without marked inflammatory changes, which recovered were not considered tuberculous, and so, being eliminated from the count, did not help to lessen the average mortality from pulmonary tuberculosis. Again, the physician who makes such a diagnosis when the signs are slight is often considered an alarmist, and another is likely to be sought who will say pleasanter things. Besides this repugnance on the part of the physician to declare a patient to have a (supposed) well-nigh incurable disease, and the distaste on the part of the patient who feels comparatively well to believe such a declaration, there still linger among both physicians and their clients two great myths: first, that pulmonary tuberculosis is *necessarily* hereditary, and, second, that it *only* attacks those of weak physique, both of which fallacies statistics destroy. Again, it is often hard for the physician to get the patient to submit to a thorough examination when he seems, perhaps, to be so little ailing, and he is often unwilling to give proper compensation for the necessary time and skill to be expended.

It is so much easier and pleasanter for both parties that a simple prescription for a "cold" be given,

that a short holiday be advised, and that it be said "you are all right," than that disturbance be created, that a lot of apparently irrelevant questions be asked, and that the physician be free of the suspicion, perhaps, of wanting to make a case.

It is not given to every practitioner to have the required experience or skill to become a refined auscultator; but he can collect the facts from simple questioning and observation, which, taken together, will seldom fail, if tuberculosis is present, to show him the "handwriting upon the wall."

The question is: How could the diagnosis have been made earlier, and much of the precious time while the disease was yet in the stage of tuberculization saved? Of course, there are cases in which no physician is consulted till the disease is developed; but far more often the tell-tale signs pass unheeded under the physician's very eyes. For instance, one of the most glaring and extremely frequent negligences is not to search into the cause of blood-spitting, to make little of it, and say: "Oh! it came from your throat." Now, bleeding from the throat is very rare, except in acute inflammation or grave affections, in which event the physician's care is also needed; occasionally it comes from the gums or nose, and rarely from the stomach, when other signs will reveal its origin; but an inspection is seldom made.

The lungs are frequently not examined, or only examined through the clothing, when the fine distinctions between the two sides, or the slight change in the character of the vesicular murmur,

or the semi-paralyzed chest-expansion, are lost. Even when an examination is made by an experienced auscultator, the signs may be too slight to found a diagnosis upon, yet when coupled with some of the other symptoms, they put the patient at least under grave suspicion, and demand that the physician should watch for further developments. In the meantime let him induce the patient to at least observe the ordinary rules of health and refrain from any indiscretions.

There may be no cough or expectoration and no other signs in the chest, and yet a constantly rapid pulse, a slight rise in afternoon temperature, or a subnormal one before rising, a trifling dyspnea on going up stairs, a little decline in weight, some loss or capriciousness of appetite, or a tired feeling unusually early in the day, may tell the tale, and, in spite of the absence of local signs, are "confirmations strong as proofs of Holy Writ." There is no one of these indications alone to be trusted. For instance, though loss of weight is one of the most constant signs, it is sometimes absent, and owing to, perhaps, a cessation of work or better care of the health being taken at the time, there may be gain instead. In fact, there are cases in which there is very little, if any, constitutional disturbance, and yet pulmonary tuberculosis is established; but such cases generally have distinct local signs, being those in which the tuberculosis is grafted on a preceding pneumonia, bronchitis, or catarrh. In this event, however, there is more or less cough and expectoration, and the microscope will reveal the secret in the sputum.

Some acute affections, such as typhoid fever, may at the outset be mistaken for acute tuberculosis; but as in these conditions the patient should be watched and taken care of, no harm is done by a short delay in the diagnosis.

If cough, without expectoration and with slight, if any, local or constitutional signs, has persisted, particularly if of a dry, hacking character, tuberculosis should be suspected—that is, of course, after the causes of reflex cough have been well looked into, such as a tickling palate, enlarged tonsils, or disordered stomach. If these do not reveal the cause, then it lies either in the lungs or in some other grave condition of reflex irritation, and the patient should still be watched and directed, not dismissed. When headache and lassitude are complained of in the afternoon or evening, the temperature should be taken; if elevated, the patient should be carefully watched, and before long the cause will be discovered. A chronic bronchitis, or a pneumonia, or a pleurisy that does not clear up should always be suspected, and the sputum examined. Night-sweats, however slight, are to be inquired into. The breathing should be tested by laying the hand lightly on the epigastrium, with watch in hand, while the patient is made to talk, so that his attention is occupied; if the number of respirations is not greater than, say, 22 per minute, the patient may be made to go rapidly up or down stairs, after which the examination is repeated. A red line on the gums next to the teeth, and curved nails or clubbed finger-ends, particularly when blue, are always suspicious. The Scotch say: "Many a mickle makes

a muckle;" and so it is from the accumulation of these little signs that the grounds for diagnosis are obtained.

TREATMENT.—Concerning the general outlines of treatment: first, after studying the disease, observe the patient's habits of life, and wherein they are not only adverse to the cure of the particular malady but sin against the general laws of hygiene, and then as far as possible correct them. See first to the digestion, and then give all the nourishment that can be assimilated; keep your patient as much as possible in the air and sunshine; encourage moderate and regular exercise, but never of a sudden or violent character; let it be proportionate to his strength, and gradually increased; but it must be very limited when the heart is weak or there is fever, and should be abstained from when fever is present; have the skin kept active by daily washing or sponging, but beware of fatiguing or chilling ablutions; clothe in wool both day and night, and train him to bear cold; medicate for symptoms or on general tonic principles; and if so inclined, you may experiment cautiously with some of the alleged specifics, such as creasote, but I regard their claims as still *sub judice*, and only to be proved by comparative experiments on a large scale in hospitals. My experience inclines me to believe they are all of doubtful value as specifics, but I think patients often improve under special forms of treatment because of the interest and hope inspired when something is being done for them, and their attention is directed toward getting well, and perhaps more particularly because the physician is likely to see his patient more often

and watch him more closely, and so give more heed to the details of his daily life, in the wise direction of which lies the secret of success far more than in any medication.

It must especially be remembered that all sorts and conditions of men may become tuberculous, and you must study the individual and his circumstances as well as the type and stage of the disease, before you can plan a rational and systematic scheme of treatment for him. All this enters particularly into the question of change of climate. The well-to-do, whose domestic ties permit it, are most safely advised to seek at once the climatic change best suited to their case, and where such luxuries as have become necessities to them can be obtained, providing that they are or can be brought into a condition to stand the change. There are many, however, who, on account of their circumstances, cannot leave home, and should not be forced to do so unless home-treatment is not succeeding. Hereditary cases should *always* be sent away. Cases arising where the conditions of life, except the climatic, are good indicate clearly the necessity of change. Cases following pneumonia, pleurisy, and bronchial catarrh, which are slow in clearing up, also should have change. In the hereditary the change must be permanent; in the second group often so; but there is a certain number of cases that have arisen under peculiarly unfavorable conditions of life, and in which removal would be a hardship, and which, if they can be placed under good hygienic conditions at home, instead of bad, can often be safely left, at all events, till some ex-

perience is gained of the tendencies of their case. Those also in whom the tuberculosis is not advanced or active, and whose depression of health appears due to digestion or other causes that can be treated at home, may remain and be watched for a time.

Often a change to a different house or soil or different surroundings, physical or social, will start a patient toward recovery, if conjoined with other wise measures. As to what climate should be sought must be decided not on the usual happy-go-lucky methods or from the results in a single case, but by studying the general principles of climatology, and then getting reliable information of the particular resort that is likely to be suitable. Climatology (of which the profession as a whole is grossly ignorant) is not the pure empiricism that many think, but is a science founded on natural laws, and strengthened by rational experience.