BRITISH MEDICAL ASSOCIATION.

FIFTY-FIRST ANNUAL MEETING.

PROCEEDINGS OF SECTIONS.

ON THE VARIETIES OF PHTHISIS, AND THE CURABILITY OF SOME IN CERTAIN STAGES.

Read in the Section of Medicine.

By W. R. THOMAS, M.D., M.R.C.P.,

Physician to the Sheffield Public Hospital and Dispensary; Lecturer on Medicine in the Sheffield Medical School.

PULMONARY phthisis annually carries away so many thousands from amongst us; oftentimes seems to choose for its victims those who are most useful in life, most delightful company, and most fair to look upon; and yet is a disease over which we often have but little control; that I feel sure I need not apologise for bringing the matter before your notice.

There are so many remedies and varieties of treatment recommended, and so highly extolled, that the young practitioner becomes confused, and hardly knows what mode of treatment to adopt. Some recommend cod-liver oil so highly, that he hardly thinks that any other treatment is required. Some speak well of the syrup of the hypophosphites. Remarkable cures are related of cases which have been sent long sea-voyages, as to Australia. Residence high above the level of the sea has done an immense amount of service to some. For many years, inhalation of such remedies as creasote has been highly recommended, and of late years this treatment has been looked upon as specific. Different inhalers have been used, by which the remedy can be applied for prolonged periods, if required, and thus made to act upon certain living organisms, it is said, in the lungs; and in this way, hosts of remedies have been well spoken of in the past as specific, and many have at last, after due trial, been thrown aside as useless.

Now all these remedies are recommended for the disease called phthisis, and a student or practitioner is apt to treat all cases of phthisis somewhat alike. One has the greatest confidence in the inhalation treatment, another in the cod-liver oil treatment, and so on.

I have the greatest confidence in recommending all these modes of treatment, and have seen the greatest benefit derived from each one; but I believe that there are several distinct and separate varieties of phthisis, that each case has to be treated on its own merits, and that, when these remedies fail, it may be that the case has not been a proper one for the mode of treatment adopted, which might have answered well in another and a different case.

At the Sheffield Public Hospital, I see a very large number of cases of phthisis annually, and certainly recognise three separate and distinct varieties of the disease, the variety depending upon the original cause; and I have found the recognition of these varieties of great importance in practice. My treatment to a certain extent has depended upon the class to which I believed the special case belonged, and I have been able to throw aside some medicines which I have hitherto considered indispensable in all cases of phthisis. These varieties are:

1. Those dependent upon the inhalations of particles which act as irritants upon the delicate membrane lining the tubes and ultimate air-cells of the lungs, and give rise to the presence of new material in the substance tubes, and air-cells, of the same, which is apt to undergo caseation and disintegration, and cause the formation of a vomica, the fever being dependent upon the local mischief originally;

2. Those dependent upon the non-disappearance of the products of inflammation, as after pneumonia, typhoid fever, and other diseases apt to be accompanied by pneumonia;

3. Those cases in which there is a distinct hereditary tendency to the disease.

Grinders, colliers, flax-dressers, stone-masons, and others, who, when following their daily occupations, are constantly inhaling particles of different materials, and also those who live in manufacturing or crowded districts, generally suffer from the first variety; and I have been astonished at the success of treatment in such cases, when the patient has been able to follow it up in its entirety.

Now, with regard to the treatment of such cases, I think that, when there are distinct signs and symptoms of incipient phthisis, and where the cause of the disease, *viz.*, local irritation, is evident, it is a sure proof to us that the lungs will not permit such irritation without re-

belling; and I think that we shall be taking the bull by the horns, and performing an act of justice to the patient, if we tell him or her that, if life is to be saved, the occupation must be given up, or that, when living in an atmosphere of dirt, removal is quite necessary.

I know that it is often difficult, perhaps impossible, for the patient to follow the advice of the medical men; as, if a man, he may have a wife and family dependent upon him, and may not, perhaps, be able to earn one fourth of his salary at any other trade; but I know I have seen some scores of good examples of real cure of phthisis in the first and second stages, and of partial cure in the third, when I feel positive that it has depended upon the removal of the cause, and that, without such removal, treatment would have been of little avail. I speak strongly on the subject, because I see clearly men and women courting death by living in such an atmosphere, and think, perhaps, that we are not positive enough in giving out directions.

In the treatment of this variety, as of the other two of this complaint, it is very necessary that strict directions should be given as to matters which the patient is too apt to look upon as not of great importance, *viz.*—exercise, ventilation, sponging, and diet.

The patient should have out-door exercise daily whenever the weather is favourable, both in winter and in summer, the amount depending upon the strength of the patient.

I find that sponging of a part, or the whole of the body, every morning rapidly in incipient cases, where the patient can bear it, is very useful, and, I believe, renders him or her less liable to, so frequently, catch cold.

As to diet, I find that female hospital patients almost live on tea and bread and butter, but very little of the latter. They have tea for breakfast, tea for dinner, tea for tea, and tea for every meal. I invariably stop this, and find that, when they take proper food, as bread, milk, meat, etc., properly chosen by the medical man, according to the powers of digestion of the stomach, improvement rapidly takes place.

As far as my experience goes, but little attention has hitherto been paid by architects to ventilation, especially when superintending the erection of cottage-houses. The atmosphere of the patient's room is often abominable, and must be loaded with all sorts of impurities, exhalations from the lungs and skin of the patient and friends, impure gases from gas-burning, which cannot fail to have an injurious influence upon the patient's health. I am in favour of having plenty of fresh air in the room by opening the window if necessary, and yet avoiding a draught; but in this, of course, one is guided by the state of the weather.

If the appetite fail, I know of no better tonic than gentian. Quinine in this complaint is a most valuable remedy; it certainly acts as a general and stomachic tonic, tends to check the fever, prevents waste, and checks the sweating better than any remedy I know.

How often we do meet with patients who tell us that they never have recovered since they had inflammation of the lungs, or some other acute disease, some months ago! Here we have not any irritant passing into the lung, but the presence of something in the lung and a general cachectic state of body to grapple with. I have seen many cases of this kind during the last few years, and many have recovered under the following treatment.

I have applied a good large blister over the part affected, administered chlorate of potash and bark internally, and given strict directions as to amount of exercise to be taken, ventilation, sponging, and diet, as in the preceding variety; and in many cases the patient has seemed to have been invigorated by the treatment, and the disease has disappeared.

Frequently I have seen a wonderful change has taken place as soon as the patient, if living in a town, has been removed to a part where the atmosphere is clear, and the weather permits, even in winter, the patient to go out daily. Unless, by recommending change again, exercise, and by attention to the details mentioned in the treatment of the first variety, an impetus can be given to increased nutrition, and that soon, there is danger of disintegration. These patients feel so depressed and disinclined for exertion, that we often have to use our best persuasive powers, and often are rewarded by success. The remedies mentioned before I have found valuable in these cases.

The most fatal cases are those of the third class, in which there is a distinct hereditary tendency to the disease. Unfortunately we do not, as often as we wish, have the opportunity of treating these cases in the very earliest stages; and it is in these stages, when the physical signs are hardly evident enough to satisfy us that there is disease present, that our treatment is of the greatest use.

My attention has frequently been directed to the chest by such symptoms as, gradually increasing debility without evident cause, increased frequency of pulse continued for weeks, failing appetite with

symptoms of dyspepsia; and often I have found audible signs of disease where the patient has not complained of any cough whatever. In other cases, when I have not been able to satisfy my ears, but felt sure, from the symptoms complained of, that mischief was brewing, the signs have at last often become evident. Whenever we meet with some of the early symptoms of phthisis in patients who have hereditary tendency to the disease, I think by far the safest plan is to treat the patient as if the lung-disease could be distinctly heard.

Now in this, the hereditary disease, I do not think that we have any specific remedy on which we can depend; but, at the same time, we have a mode of treating these cases which often, when I have hardly hoped for success, has proved very successful and satisfactory.

In treating this disease, I am afraid we are all apt to follow fashion, to prescribe remedies and modes of treatment at the time in vogue, and to forget the treatment which sound common sense, combined with a reasonable amount of medical knowledge, would dictate to us.

The patient should live in a part where the air is pure, neither too dry nor too moist, and where the climate permits out-door exercise to be taken. Hence, removal to some of the places celebrated for this climate, is often of marked benefit, simply because the patient can then take plenty of exercise.

If, in this class of case, the patient can take cod-liver oil, he certainly should; and I have certainly seen the remedy act wonderfully, as if it had a specific effect. It has relieved the cough, fattened and strengthened the patient. On the other hand, many patients cannot take it in any way, or at any time, without suffering in some way or other. They feel sickly, suffer from dyspepsia after it, are relaxed, or have their appetites spoilt by it.

I have tried the inhalation treatment extensively. Some patients say that they have derived benefit from the treatment, and cough has been relieved, the quantity of expectoration has diminished, and the general symptoms have improved. Others seem to derive no benefit whatever; the inhalation in these cases increases the cough, impairs the appetite, and makes the patient ill.

In this, as in the other two varieties, I attach the greatest importance to the amount of out-door exercise taken, or in-door if the former be impossible; to proper ventilation, to the climate, the sponging of the body, and the taking of suitable food; and, as internal remedies, have found quinine, iron, and some of the vegetable tonics the most useful.

The object I have had in bringing this matter before your notice has been to show that, in the first variety, we have a disease produced by local irritation only. The fever is secondary, and I feel sure that if we can only remove the cause we do much towards the cure. In the majority of cases in the first and second stages, attention to general health, together with the administration of a few well-chosen remedies, will often effect a cure; and sometimes even in the third stage.

In the second variety we have something more formidable to deal with; something present in the lung, and a cachectic state of body. Unless this be grappled with at once, the lung will be sure to break down. The best way of treating that body is to place it in an atmosphere of purity, to surround it with sights which afford food to the mind and divert from self, to compel it to take exercise, and thereby create necessity for food, promote healthy changes in the lungs as elsewhere, and to supply to the stomach that food which is most beneficial; in this way, cases which have been at a standstill for a long time, will often change for the better. In the third variety we have hereditary tendency to deal with, and must endeavour to treat it early; as in the later stages, owing to this tendency, it is a most serious disease to have to contend with; and in this class cod-liver oil, if it can be taken, acts beneficially; probably the inhalation treatment is also useful, but, above all, pure air, exercise, and good food, are our best friends.

ON ANTISEPTIC INHALATIONS.

Read in the Section of Medicine.

By SOLOMON C. SMITH, M.D.,

Surgeon to the Halifax Infirmary.

At the present day, when antiseptic inhalations in one form or another are frequently prescribed, and commonly used even without prescription, I think we ought to endeavour to arrive at some definite conclusion as to their mode of action, and as to the way in which they produce those beneficial effects which are commonly attributed to them.

The shortness of time makes it necessary to place some limit to the subject; I do not propose, therefore, to discuss the question whether or not these inhalations are beneficial. I think we shall, most of us, agree that, be their action what it may, we find that, while treated by an an-

tiseptic atmosphere, patients often experience a considerable relief of cough, and often gain flesh and strength; so that we have come to understand that in certain cases these inhalations do good, and the question is, how do they do it?

The subject must also be limited by provisionally accepting the theory that many cases of bronchitis, especially those with bronchiectasis, become dangerous chiefly in consequence of septic processes resulting from the growth of bacteria in their dead expectorations, and that phthisis arises from the development within the living tissues of the lung of crowds of bacilli, which, by setting up tuberculosis, a process consisting partly of irritative overgrowth, and partly decay, lead to the destruction of the lung.

The term antiseptic, in fact, presupposes the existence of some such septic processes as we now know to be caused by bacterial growth. It has long been thought possible, by inhalations of creasote, to limit decomposition in the expectoration; but, now that the investigations of many observers have shown the constant presence of certain bacteria in phthisical disease, the hope is that not only may antiseptic inhalations control septic processes in dead secretions, but that they may be destructive to those micro-organisms which are at the root of tubercular disease in living structures.

I inquire then, how do they act? What effect can an atmosphere, charged to the extent recommended, have upon these living micro-organisms? Can a respirator keep them out? if not, can any vapour which is fit for respiration destroy them? if not, can it in any other way influence their growth, or check their development, so as to prevent their ill effects?

The first of these three questions we must answer at once in the negative. Any one who takes the trouble to master the details necessary for the successful conduct of experiments on sterile solutions, will see at once the impossibility of keeping bacterial germs out of the body by any form of respirator which it is practically possible to wear; and surely we have no right to believe that the bacilli of tuberculosis are any easier to intercept than the bacteria of decomposition. If we allow that they exist, and that they cause disease, we must admit the almost universal distribution of these infective particles. Every day we must have in our midst within these isles, constantly warring against us, a great army of 150,000 sufferers from this one disease, consumption, scattering amongst us right and left its germs, which, although harmless to the strong, are a perpetual menace, hovering about us ready to invade and breed in our enfeebled tissues, whenever, from disease or trouble, or unhealthy surroundings, our vitality is impaired; the enormous number of centres of infection explaining, as the occurrence of apparently isolated cases of phthisis proves, the wide distribution of the infective particles, and making us despair of success in keeping them out of the body. Can we then kill them if they gain access?

To kill bacteria is one thing, to kill germs is quite another. It has been proved that they can stand a short boiling, that they can be floated in air-bubbles through strong vitriol, that they can be washed with carbolic solution of any strength short of 5 per cent., without being killed, or losing their power of self-multiplication. Is it likely, then, that any vapour which could possibly be inhaled would be capable of destroying organisms which are so retentive of their vitality? I think it is quite obvious that all evidence shows that it is impossible, either to keep germs out of the body, or by antiseptics to kill them. What else, then, can inhalations do?

Several years ago, Professor Tyndall made a discovery which has an important bearing on this subject. While he was performing a series of experiments on the living matter in the atmosphere, it became necessary very frequently to prepare sterile solutions, and he was much troubled by the prolonged boiling which was necessary to destroy with any certainty their contained vitality.

But he found that if, instead of giving his solutions one long boil, he heated them several times for quite a short period, leaving them at the ordinary temperature in the intervals, he could quite readily devitalise them. This method he described as sterilisation by discontinuous heating. He discovered, in fact, that, however hard and resisting the germ may be, there is, in the life-history of every bacterium, a period when it is very soft, tender, and easily destroyed; and that, although he could not touch the germs themselves, he could let them hatch, and, by repeated slight heatings, kill their offspring as they came out, while they were too young to produce a fresh generation; and thus he was able, without ever reaching the point of ebullition, completely to devitalise the fluids which he had found most resisting, even to very prolonged boiling. The recognition of this difference between germs and bacteria, as regards the action of destructive agents, explains many things otherwise difficult of comprehension, and enables one to understand how organic substances can often be protected from