A Clinical Lecture ON THE TREATMENT OF PNEUMONIA.

DELIVERED AT ST. BARTHOLOMEW'S HOSPITAL,

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GENTLEMEN,—I shall take for my lecture to-day a subject which is of great importance at the present moment—namely, the treatment of pneumonia—because there is a great deal of that disease about in connexion with the outbreak of influenza, and because we are approaching the time of year in which it is usually prevalent even when influenza is not here, namely, the spring months of the year.

What do I mean exactly when I say pneumonia?—an acute inflammation of the lung, of course. But we have to go further than that; and now that we study diseases from the bacteriological point of view, we have to consider what are the bacteriological causes. Many different inflammations may be produced by many different bacteria. And so it is in regard to the lung. Constantly mistakes are being made in practice by diagnosing as pneumonia a case which turns out to be tubercle. Tuberculous pneumonia may begin with very acute symptoms, just like some other acute inflammations of the lung. The same is true of typhoid fever; plague is another instance, and influenza is another. Another very good instance is anthrax, where you find the specific organism of that disease and not the pneumococcus.

We shall deal to-day with what is ordinarily called pneumonia, that is, the disease produced by the pneumococcus, known as pneumococcal pneumonia. I am not sure that we are correct in assuming that there is only one pneumococcus, because I shall have to say directly that the serum obtained from one strain of pneumococcus does not seem to have the effect we expect upon another strain of pneumococcus. So it is possible there are different kinds even of pneumonia. That is a point we need not go into in detail now. Another fact which it is well to remember is this, that a germ disease is not necessarily an infective disease, for we are rather in the habit of regarding all bacterial diseases as necessarily infective—of course we must catch these diseases somehow, and we mean by an infective disease one which is transmitted from one person to another. We have no evidence that such infection occurs in pneumonia. It hardly ever happens that a patient lying in a ward with pneumonia gives it to another patient next to him or in his immediate vicinity. There are curious cases in which pneumonia develops in so-called epidemics, and there are instances in which several cases of the disease have occurred in a particular house. But that is another point. Many of those cases were recorded before we understood the bacteriology of pneumonia, and it is possible that they were not really pneumococcal pneumonia at all. However, we pass that by. Another important point is that the pneumococcus is extremely easily destroyed. It is very difficult to cultivate and grow it properly, even when you try. It will not live for more than a few hours even in the sputum, where it is kept warm and moist, and has various conditions favourable to it. If it becomes dry it dies almost at once. That is another reason why we are justified in regarding pneumonia as not very infective, as we have distinct clinical evidence that it is not.

With regard to treatment, in all germ diseases we have several things to consider. First, what can we do to kill the germ and so prevent its spread? And if we cannot do that, what can we do to neutralize the poisons which are produced? And if we cannot do either of those things, how can we successfully treat the patient? There is no disease in which the treatment of the patient is more important than in pneumonia. We know nothing that will kill the germ inside the body, and, as I have already indicated, we do not know a serum or vaccine which is effective against the pneumococcus, and so we cannot do very much in that way. Is there anything we can do by way of preventing a patient from getting the disease? There is one marked peculiarity which it is well to bear in mind: that a patient who has had pneumonia once is more liable to it again, just as in the case

of influenza. There are people one knows who have had pneumonia several times, just as many people have had influenza a number of times. A former member of this staff had several attacks of pneumonia. I saw him in one or two, and he died in his seventh attack of the disease, when he was an old man. I can give several instances of a third and fourth attack in my own experience.

Pneumonia is very often a secondary or consecutive disease, and one of the diseases which most commonly occurs with it is measles. We have no proof that the measles germ is responsible in those cases, because we do not know the measles germ yet. But we have plenty of proof that in the majority of cases of pneumonia after measles it is the pneumococcus. You must remember that the pneumococcus is very widely prevalent, and it is found frequently in the mouth, yet very many people who have this pneumococcus about them never get pneumonia; but when people are prone to pneumonia—that is the point—there is more danger. You have always to bear in mind, in dealing with germ diseases, first the germ, and secondly the soil in which it grows. Measles and some other diseases, like influenza, lower the resistance of the body to those germs very materially. So, in the case of measles, pneumonia is one of the conditions which you have to watch for.

A number of bacteria are found normally in the mouth, and the pneumococcus is frequently present among them, and therefore it is quite clear that careful toilet of the mouth and disinfection should be carried out, and this will go a long way towards diminishing the risks of pneumonia following measles. I believe that if more attention were paid to the mouth and throat and nose in all these cases of septic disease we should have very much fewer secondary complications than are met with at present. That is a little point of practice, but an important one, which you should bear in mind. It is, of course, good nursing to keep the mouth clean, but it is good doctoring, too.

The next division of treatment is what one may call the antibacterial or antitoxic. Can we do anything to kill the germ? I have already told you, No. We know nothing which will cut the disease short when it has started in a patient. Nor is there any hope in the use of antitoxins. The only serum which seems effective is that grown from the patient's own bacilli. This is the result of experiments on animals, and it takes fourteen days to develop anything in the nature of a vaccine which is required; and, as pneumonia lasts about a week, by the time anything has been grown the patient is either dead or well, and the preparation of a serum for his case does not interest him at all. That is a reason why it is very difficult to get a serum which is efficacious, and, as a matter of fact, there is no serum treatment for it.

We have, therefore, now to turn to the patient himself. That treatment is called symptomatic. Symptomatic treatment is often spoken of disparagingly; but, after all, if you cannot treat the disease you may as well treat the patient, and, if you can save your patient, it does not matter whether you have been treating the disease or not. There is no disease in which the careful treating and careful watching of the patient, the careful nursing and doctoring of him, will show better results than in pneumonia. That is a thing which you should never forget. No matter what may be the current theories of the disease, save your patient, and if you stick to the patient you will get him well. If you do not stick to the patient he is likely to die, no matter what you do, because I do not know any disease in which the changes are so rapid as in pneumonia. If I see a patient who has a devoted doctor I come away happy, but if I have a man who says, "I will call and see the patient to-morrow," I come away unhappy, because I know that very likely he will lose his patient. I have seen many cases pulled through by the doctor being on the spot ready to act when wanted. A little strychnine, for example, at the right moment will save a patient from going the wrong way; it will decide whether he will take a turn for the better or for the worse.

What is the natural history of the disease? That is often forgotten in the treatment of pneumonia. Because you want to be sure that by your treatment you have improved or modified the natural course of the disease. If the patient is going to get well anyhow, it is only a question of how far you can help him, and you will not then speak so much of treatment as if you felt you

had to do something in order to get him well. If you have a healthy young person to deal with, an ordinary robust man or woman, who has not had any great strain or illness before, but who gets pneumonia, the chances are that he will get well; and if he is properly looked after, so that he is not made worse by improper and careless treatment—because you can so easily make a patient worse in pneumonia—and if the case runs an ordinary natural course, in the majority of instances the patient will get well. If there have been no unusual symptoms, there has not been very much to treat. So what shall we do in a general sort of way for a patient who has nothing very special in his case? First of all, of course the patient must be kept in bed; and, indeed, there is no inclination or power to get up. You need not cover him up too much with clothes. His temperature is at 103° or 104° , and that is what we hope for. It is desirable that the relation which exists between the fever and the other symptoms should be something of this kind: Temperature 103° , pulse 120, respirations 36 to 40. That is what you may call normal for pneumonia in a healthy adult, and it is well that that relationship should be preserved. If the temperature be 101° it is a little unfavourable; and if the temperature be 106° of course it is serious. A pulse-rate of 140 or one of 60 are neither of them good. A respiration-rate of 20, though all right for health, is bad in pneumonia—it ought to be 40; 60 is a bad respiration-rate for pneumonia, except in children. But I need not go into those points.

If the patient has a temperature of 103° nothing need be done to reduce it. Fever used to be regarded as the cause of all the other symptoms. We know now that fever in many ailments is the way in which Nature responds to the attack of the disease, and, other things being equal, it is good that the temperature should be high, for the pneumococcus cannot live in a temperature of 104° for long. The patient should not be too warmly covered. The temperature of the room should be 60° , or something like that. If you go into a room where there is a patient with pneumonia, and the people are not instructed and not wise, you may often find the temperature of the room about 70° , the windows closed, a big fire in the grate, a kettle of water on the fire, and several blankets on the patient's bed. That is their idea of treating the fever, making the patient as hot and uncomfortable as can be to avoid the risk of a chill. As a matter of fact, nothing does the patient so much good as cool, fresh air, so long as he is not in a draught. Cover him over lightly, using one blanket, perhaps, to prevent him from getting a chill.

Next, with regard to diet, what will you give a patient who has pneumonia but no particular complications? You will not give any solid food, because the tongue is furred, but give milk and put the patient upon a definite diet. That is a point which is often forgotten in these cases. I saw a patient who had pneumonia very badly, and I asked how much milk he was having. The reply was, "Oh, at least four or five quarts, and he is doing very well indeed." And I said, "How does he take it?" And the reply was, "We give him as much as he can take whenever he asks for it." You ought to write out your diet: Let the patient take five ounces of milk or so every two hours. You can give three separate pints of milk with an egg beaten up in it, so that he will receive three pints of milk and three eggs, and that is a splendid diet for anybody; it is too much if anything for the ordinary pneumonia patient. If he is thirsty in between these feeds do not give him anything but water, or iced water if you like, or soda water, or whatever of that kind he may fancy. Do not be afraid of water. There is an old and irrational prejudice against water in fever. You can give citric acid, or lemon juice and water, or imperial drink (tartrate of potash and lemon juice). Do not give too much lemon juice, because it may coagulate milk which the patient is taking, and that will not help digestion. Such a drink, if not given in excess, will also help the kidneys a little.

Then there is the important question of stimulants. An ordinary case of pneumonia requires no stimulants at all. We will come to the class of case requiring stimulants soon.

A little purge, consisting of castor-oil, or 2 or 3 grains of calomel for an adult, would be very good to start with. This will clear the bowels and will do no harm.

Now, supposing the illness has run its acute course, and convalescence has commenced. Well, do not be in a

hurry to get the patient up. Such a patient requires a good deal of care during convalescence. Even a straightforward case you should examine every other day or so, so as to ensure your not being caught napping, because you must remember that pus in the pleura or in the pericardium may develop with very little sign, and with no elevation of temperature. It is not very common for this to occur after a straightforward case, but it does sometimes, and, unless you are very careful, you may be caught. Even if everything seems right do not be in a hurry to allow the patient up, because, remember, that in pneumonia a good deal of stress falls on the heart. You may map out the outline of the heart and find that it is dilated, and that, of course, will make you more careful. The second thing to remember is that the illness has had a very serious effect on the lung—not only the part particularly attacked by the disease, which, of course, is profoundly affected, but also parts which have not been very much inflamed, so you will take great care of the patient lest he catches cold. In many cases bronchitis develops after pneumonia because the patient has not been taken sufficient care of, and this condition may degenerate into chronic attacks which may last a long time, and give a great deal of trouble afterwards. There is a general nutritive change in the lung, and I could mention cases in which emphysema dates from an attack of pneumonia. Examination was previously made and no emphysema existed, but it was found present afterwards. Remember, then, this profound nutritive change in the lung when you are dealing with the stage of convalescence.

As to medicine for such a case as I have described, a little strychnine and nux vomica will help the digestion, and will be a good tonic to use, and that is practically all you will require in the way of drugs.

Now let me mention two or three special symptoms which will call for treatment. The thing which the patients complain of most is "stitch" in the side. It is a very painful symptom and lasts a long time, perhaps for the first two or three days; it disturbs the rest and is distressing in every way. You can put on a poultice for this. But poultices are not very good things, because they are heavy, and if patients are breathing hard and with difficulty they have to lift the poultice every time a breath is taken. But poultices do good sometimes in this condition. You can, instead, put on a spongiopline jacket and sprinkle it well with spirits of camphor or turpentine. But, as a rule, when the pain is bad these remedies do no good at all. You can give patients morphine for it, but it is undesirable for this purpose and does not often do much good. You want something else in these cases, and that is generally obtained by means of a few leeches. Three or four leeches put on to the painful spot will stop the pain and it will not come back again. That is a very curious fact, and the explanation is difficult, but we have not time to go into that now. The pain does not come back, in spite of the pleurisy being still there. Sometimes there is hyperaesthesia; tincture of aconite brushed over the spot will often stop that, and it is a very good remedy.

Then, again, with regard to temperature. When does the temperature require treatment, and what shall we do for it? If the temperature goes up to 105° , 106° , or 107° —and we may have patients with pneumonia running up to those figures—it requires treatment. The temperature which is fairly high and only drops one degree or so is a worse form of temperature than one which is a little higher but drops further. But if the temperature is as high as 105° or 106° something must be done for it. What shall we do? Of course, if it went up as high as 107° or 108° , which it seldom does in pneumonia, you would have to put the patient into a cold bath and keep him there until the temperature went down. But remember that a pneumonia patient is about as exhausted as he can be, and nothing could add to that exhaustion so much as, or more than, putting him into a cold bath. In a little child a cold bath would not do much harm, and it would be easy to lift it in and out, but with an adult it is a different matter, and of course he could not be lifted out of bed and into it again with the same facility as a child. How can you deal with the adult with high temperature in a more convenient way? I think the best way is by sponging. You can sponge one arm first and then the other, and then one leg and then the other, and in this way you can cover the whole of the

body, and the temperature will probably be brought down considerably without fatigue. Or you can pack the patient, but that is a greater undertaking. Supposing the temperature persists at 105°, we can give the patient an "air bath." It is given in this way: the patient is kept in bed, and a frame like a tent is put over the bed, and the body of the patient is only lightly covered, perhaps a sheet thrown over him. He is then surrounded by fairly cold air, and if necessary bags of ice can be hung within the frame so as to reduce the temperature of the air still further. This is an excellent way of reducing temperature. You do not so often see it employed in cases of pneumonia as in cases of typhoid fever.

Now what about the use of those drugs which are called antipyretics—that is to say, medicines whose function is to pull the temperature down? Antipyretics are almost given up nowadays, and for this reason: that when they do lower the temperature—and they do not always accomplish this—the effect is only transient. And you cannot repeat the drug, because the great point about these medicines is that they are depressant in their action, they are cardiac depressants. Antipyrin, antifebrin, phenacetin, are drugs of this kind; alcohol in large quantities has also been given for this, but it is overstimulating to the patient, and the effect is often worse than if nothing at all had been given. You will obtain your desire to lower the temperature much more effectively by cold sponging or by the air bath, and without producing any harmful results.

Now let us come to another point. There are two great dangers in pneumonia. One is the condition of the lungs, and the other, very closely associated with it, the condition of the heart. You cannot do very much for the lungs. One or two things can be done for them, in a way we shall see presently, but we do not know any means of checking the progress of pneumonic consolidation in the lung. For instance, if there is pneumonia in one lobe of a lung, we do not know how to prevent it spreading to another lobe, or all over that lung. People talk about putting blisters and other counter-irritants on the side for such a purpose, but we cannot prove that they have any effect; and remember that violent counter-irritation distresses the patient a good deal, and it may make him worse, and do harm in other ways. Some advocate ice, but it has no advantage, and some drawbacks.

Now with regard to the heart, there is hardly any case of pneumonia in which the heart has not to be considered. The great danger in these cases is cardiac failure. Why is the heart likely to fail in pneumonia? For two or three reasons: First, the patient has high temperature, and temperature alone, if it is very high, say 105°, is very likely to produce degenerative changes in the heart muscle. So temperature has to be considered as a possible cause. The next is that the toxins produced by the pneumococcus apparently have a direct effect on the heart itself. All the fever toxins do produce a parenchymatous cellular degeneration of the granular kind, and we have very distinct evidence as to how a heart is affected in that way. There is another reason, and that is the mechanical interference with the heart's action which the condition of the lung causes. Respiration has to be carried on; the inflamed part of the lung is not any good for the purpose, and the other parts have to do the work, and in order to do that work—and there are extra demands on the lungs when the temperature is raised—the heart has to work harder than otherwise it would. In some of these cases cardiac failure shows itself in failure of the right side of the heart. That side becomes in consequence greatly dilated, and you can percuss it out and prove it, and there is pulsation in the veins accompanied by a dusky colour of the face. Let us consider how you can deal with the last cause—where there is cardiac dilatation and the patient is becoming cyanosed, partly from failure of the right side of the heart and partly from the difficulty in getting the blood through the lungs. This is capable of mechanical relief, and it is the class of case in which great benefit is given by bleeding the patient. Many lives may be saved by a timely venesection. But you must always have clearly in mind what it is you are bleeding the patient for. It is of no use scratching the skin and taking away enough to stain a pocket-handkerchief; you must take away ounces—a pint or even two pints—if you are to do any good by it. If you want to relieve the dilated ventricle you must

take away a large quantity of blood quickly, and therefore you will take it from a large vein, generally from the arm in the usual way. Obviously if a patient cannot afford to lose a pint of blood or a couple of pints, you must not think of bleeding him. And remember that the removal of a pint or two of blood leaves the patient weak, and that also has to be taken into consideration. You may save the patient's life for the time by the venesection, and if he has strength to spare he will get well. But if he is weak already there will be every contraindication against the venesection. But many cases have been saved by it. Nowadays patients are not bled often enough in pneumonia; there is a strong prejudice against it in the mind of the public. But in the class of case which we sometimes have here, the big, full-blooded butcher, who has beef and beer on board in any quantity, bleeding gives a good deal of benefit, and it can be done freely. Probably that is the class of case which our ancestors used to bleed regularly in the way of a regular spring cleaning, and it is the class of case which gets into trouble in the early days of an attack of pneumonia. You may save the life of such a patient by bleeding in the early stages of pneumonia. But, as I have said, there are various contraindications, and the matter requires careful consideration.

Now as regards temperature. If the failure of the heart depends on temperature, we can deal with it in the way I have been mentioning. We cannot do very much to counteract the toxins which act on the heart directly, but there are things which we may do, if the heart is very weak. How do we ascertain that? You may map out the area of the heart and conclude there is some dilatation, but the points that we look for are the character of the heart sounds and the character of the pulse. The pulse, of course, I need not describe; you know it is wanting in tone, feeble in its beats, and so on. But before the pulse shows any marked change at all you often find changes in the heart, and that is more important. You ought to investigate both, but the character of the heart sounds is the more important. If you listen to the heart, you will find the first sound is extremely weak, or you may even not be able to hear it at all. When that is found to be the state of the heart, your first indication is for stimulants; it is then that you want alcohol, or ether, or strychnine. We can use other remedies, the more directly cardiac remedies, such as digitalis, strophanthus, and caffeine. Digitalis has this unfortunate characteristic—that it is a cumulative drug. Where the heart is beating rapidly and weakly, you might give digitalis; but if you give full doses of that drug, you may find you have overshot the mark, and the pulse-rate in consequence may become very slow. For this and other reasons you have to be careful with digitalis. Strophanthus is not nearly so reliable. One of the best combinations of drugs, the one which I certainly see most benefit from, is citrate of caffeine with nuxvomica. This combination is very good indeed for the asthenic form of pneumonia in which the heart sounds are very feeble.

Another way in which we might attempt to counteract or destroy the toxins is by the use of oxygen. I would say a few words about oxygen in regard to the heart.

There are two reasons why oxygen might be given. First, because patients are getting cyanosed and are not aerating their blood well. That is a very legitimate and proper employment of oxygen. There is another reason, and that is that these toxins which are produced in various conditions apparently are fairly easily oxidized. That is theory, of course; certainly the administration of oxygen is extremely useful in these toxic conditions. These toxins are not necessarily produced by fevers only. You will remember in this connexion diabetic coma and uraemic coma—or, better, diabetic and renal toxæmia; in fevers you may speak of febrile toxæmia—and oxygen does good in all these cases. But the important point is, not to wait until the condition is critical before giving it. Begin early. The great mistake which is made in this connexion is waiting until the patient is practically moribund before you use it. Oxygen has effects in various ways. It makes the patient better and, curiously enough, sends him to sleep. So there is distinct evidence of the inhalation of oxygen being an extremely useful remedy in many of these cases.

Now with regard to the use of expectorants—of course

I can only run over these matters briefly and cannot touch all the points. The patient has something the matter with his lungs, and therefore it is often thought that the first thing to do is to give expectorants. What do we mean by expectorants, and what is their action? We mean either that expectorants assist the patient to cough up the secretions in their tubes—to "loosen" it, as they say—or that the expectorant produces a secretion in the tubes. Of course we do not want to produce any secretion in the tubes in pneumonia, and there is not anything except in the pneumonic parts to bring up. So expectorants are contraindicated, and clinically they are found not to do good.

The patient has a cough. What is the use of that cough to him? It is intended to help him to get rid of the little secretion in his tubes, and therefore it is a thing to encourage and not to stop. And where the cough is not very troublesome you need not worry about it. This raises another question: Shall you give anything like that very favourite remedy, Dover's powder? That contains opium. What will be the effect of giving opium? You check the patient's sensibility and he will not get rid of the stuff out of his tubes. Remember that opium is a drug which must be employed with very great care in pneumonia.

Sleeplessness is another most important symptom to treat in pneumonia. Many patients sleep brokenly, but still they sleep. Other patients cannot close their eyes, they long for sleep but cannot get it, and they lie awake day and night. If you do not procure them sleep somehow, they will die of sheer exhaustion. Another point is, that not only are the patients sometimes sleepless, but they are actually delirious and wild, and are constantly getting out of bed, or trying to. And drinkers get delirium tremens under these circumstances, and if they are allowed, they run all about the room, seeing things. These patients frequently die. But if there is no delirium tremens, no drink, but an ordinary case of pneumonia with nervous symptoms, in a patient who has been working the brain very actively, in such patients pneumonia takes on the nervous type; they are often found to be unable to obtain sleep, and they become actively delirious. The other day I went to see a gentleman who had had no sleep for at least forty-eight hours, and yet his temperature had fallen and apparently his pneumonia was resolving, or at any rate had come to an end. He was incessantly talking and fidgeting, and trying to get out of bed and jump about. What shall you do for such a case as that? You must get him to sleep, and at once. How shall you do it? You cannot give large doses of chloral, because of the action which that exerts on the heart. It is no good playing with sulphonal and paraldehyde and things of that sort, which may or may not affect him, but will take some hours to do so in any case. It is no good giving potassium bromide, and you cannot give chloroform in such a case, and so it comes to this, can you give a subcutaneous injection of morphine? You must. The only contraindication to giving morphine in any chest complaint is a large amount of secretion in the tubes, because it prevents the desire to cough so as to get rid of it. But in a number of these cases there is nothing obviously wrong in the other parts of the lungs—only in the part which is inflamed—and if one lung is free of disease you may give some opium. But you must be prepared for frights after you have given it. You may give an adult patient one-third of a grain of morphine, and if he does not sleep as a result of that, you may give him another. With that dose of two-thirds of a grain he may go to sleep, and then you find after a time that you cannot awaken him, and you begin to think that you have poisoned him with morphine; but this is not the case. The fact is, you have got him to sleep at last, and he is by that time so exhausted that it is almost impossible to wake him up for a time. So remember it requires careful consideration very often whether you shall give morphine or not, and in many cases the practitioner does not care to give it, and likes to share the responsibility with somebody else, whom he calls in. Yet it is the only thing to do if your patient is likely to die of exhaustion.

But in relation to sleeplessness and delirium, there is one drug which I think I ought to caution you against, because it has been used a good deal, and that is hyosciamin. My experience of that drug has been unfavourable. You will find it advocated for delirium

and it does good in mania and similar mental states, but in my opinion its use is very risky in cases of pneumonia. What you may give to a healthy lunatic with success may quite well be harmful for pneumonia.

But what shall you do for these delirious cases, short of giving morphine? And we do not use morphine as a rule for delirium. There are several things to bear in mind. What is the cause of the delirium? The high temperature is very likely to be the cause, and so we have to consider the various means of reducing temperature. Sometimes if you put cold applications on the patient's head you help him to get to sleep, or you may put the patient's head over the edge of the bed and take a watering-can and give it a shower bath. That will often send him to sleep. Now, some patients do not get markedly delirious until the temperature is practically normal, and that is the delirium of asthenia or exhaustion, and if you give the patient a little alcohol and a little sedative, the delirium will subside. Delirium in convalescence is generally an indication for stimulation of some kind.

Supposing you have your patient convalescent, I would emphasize again what I said earlier in the lecture—during the first ten days examine your patient carefully. As a warning which will be useful, I will give you a case which happened a little while ago. A patient who had had pneumonia in the hospital was perfectly well, as we thought. He sat up in bed to eat his dinner, and fell back dead. Apparently he was quite well at the time he sat up. It was, of course, a great shock to everybody. We found empyema on both sides, and the pericardium full of pus. It would have been impossible for that to have been missed if any examination had been made of the base of his lung, or heart either. I mention that to show how very insidious are some of these suppurations which occur in pneumonia. If we had examined him regularly we must have had our suspicions roused. If we had suspected pus we should have found it, let it out, and possibly saved the patient.

Lastly, let me once more impress upon your mind that when treating a case of pneumonia you are in for a big fight, and that you are most likely to win if you never lose heart, but fight on valiantly to the finish, however desperate the struggle may seem.

The Purvis Oration

ON THE

DIAGNOSIS OF ORGANIC FROM FUNCTIONAL AFFECTIONS OF THE NERVOUS SYSTEM.

DELIVERED BEFORE THE WEST KENT MEDICO-CHIRURGICAL SOCIETY,

By J. S. RISIEN RUSSELL, M.D., F.R.C.P.,

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HAD I not been sensible of the honour that the invitation to deliver this oration carries with it, a cursory glance at the list of past orators would have sufficed to convince me that I have been paid a high compliment. Although I needed no such reference to the list of previous orators to make me appreciate the honour, I have been unable to prevent myself from pondering over and wondering how it would be possible for me to acquit myself in a manner that would justify your associating my name with those of such distinguished members of our profession, whose orations must have contained a wealth of experience and information far beyond anything that I can possibly pretend to have at my command—fitting memorials of Dr. Purvis, in whose honour we are assembled this evening.

The subject I have chosen may be treated in many different ways, but for the purposes of this address it appears to me that cases in which the problem to be decided is as to whether we are dealing with a case of organic disease of the nervous system, as opposed to one in which the symptoms are due to functional disturbance, fall conveniently into one of four classes:

1. Cases in which the nature of the affection is such that if organic disease exists we may expect to find certain physical signs which are more or less inseparable from the affection.