CLINICAL LECTURE

ON

THE VARIETIES OF PNEUMONIA.

BY
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GENTLEMEN,—We have recently had the opportunity of watching together several cases of pneumonia, or inflammation of the lung-tissue; and it cannot but have struck the most superficial observer that, although in each there were certain signs which bore a close resemblance to one another, the cases differed much in their general aspect, and in the course they ran. You have seen the treatment to be *nil* in one case as regards medicinal interference; in another, venesection was employed; in a third, saline or alkaline treatment predominated; or, again, perhaps it was thought necessary to let a supporting and strengthening system prevail. In visiting the patients, I have briefly expressed my views and reasons; but it may be well, and of practical utility, to review the subject, as it is one involving the general theory of medicine and the greater or less value of treatment of disease at large, and the prolongation of life.

What I wish to inculcate is this: that, in the treatment of a morbid condition, you are not to be guided by a name; you are not to believe in specifics, or to assume that, because a certain set of signs resemble one another in different patients, therefore the condition which produces those signs or symptoms is based upon the same fundamental derangement to which it must be referred. You would not think well of a watchmaker who attributed all irregularities to which watches are subject to bad tempering of the mainspring, and therefore, to rectify the irregularity, at once insisted upon renewing the mainspring. You would expect him to take the watch to pieces, and to ascertain whether the escapement was well balanced, the different pins and pivots in their place, the cogs of the different wheels uninjured, or whether oil and dust had accumulated in one part or other of the machinery. His proceedings to remedy the irregularity would depend upon the result of this inquiry, and vary accordingly. The empirical practitioner of medicine resembles the ignorant watchmaker; he adopts his remedies without carefully analysing all the elements that go to make up disease, and is satisfied with a foregone conclusion, determined often by very imperfect data. The careful and scientific practitioner imitates the clever watchmaker, as far as it is possible. He cannot, indeed, take the human machinery to pieces; but he can, by means of his physiological and pathological knowledge, lay open a great many concealed processes, and analyse them or the derangements to which they have become liable. By examining the previous personal and family history of the patient, he is able to determine the existence of any latent tendencies or idiosyncrasies; by analysing the subjective and objective phenomena of the disease, and by comparing them with those manifested in other patients similarly affected, he eliminates that which is essential from that which is non-essential; and thus, instead of following routine in treatment, which is but a vague and uncertain guide, he arrives at a scientific conclusion as to the measures to be adopted upon a general review of all the constituent parts of the frame. This doctrine is not a new one, but it is often lost sight of; and, as a single symptom has frequently been erected into a nosological entity, so a mere name has in several schools served as a guide to an uniform method of treatment, ill adapted to the various conditions that that name was made to embrace. Of pneumonia it may be said, almost more than any other pathological process, that it is not an unity. There is a certain resemblance between all cases of pneumonia, in the physical signs they present. Auscultation and percussion, from attracting too exclusive attention, have served to obscure vital conditions which ought never to be overlooked if our treatment is to be thoroughly rational. Cases of pneumonia differ widely from one another, not only in the extent of tissue affected and the duration of the disease, but they are wide apart in character, in origin, in course, in signification, treatment, and result. There are numerous diseases which occupy a different position. We are justified, in regard to zymotic diseases, in assuming an uniform morbid cause. In scarlet fever, in typhoid, in typhus, in cholera, in measles, we see variations in the symptoms; but the phenomena are essentially uniform in character, though not in degree. Pathologically and nosologically, they present a

type that separates them from all other diseases, and establishes them as distinct entities. They each depend upon the presence of a peculiar poison; and it is perfectly conceivable that the advance of biochemical inquiries may eventuate in the discovery of an antidote or specific for each poison. Pneumonia, as such, cannot enjoy this privilege, because it varies in type, indicating very different poisons or morbid influences as capable of inducing analogous symptoms, and exciting derangements that closely resemble one another, but cannot be successfully treated by the same methods, because these must be determined by the varying fundamental conditions from which they take root. I am not now developing a history of pneumonia, and therefore guard myself against the supposition of being engaged in an inquiry into the difficult question of varying types of disease at different ages of man; but I do not hesitate to maintain that, at one and the same time, we meet with cases of pneumonia that differ very materially in type, and therefore demand very varying treatment. I hope to give satisfactory evidence of the proposition before the conclusion of the lecture; but I may be permitted even now to appeal to all who have paid any attention to climatology, as to whether or not, at the same time, the type of disease generally does not differ very materially according as the climate is of a dry and warm or wet and warm character; as to whether the atmosphere is still or windy; as to whether the alternations of temperature and moisture are great and sudden, or the reverse. This, however, by the way.

Before I offer you a few illustrations of my statements regarding different types of pneumonia as they are constantly occurring under our observation, let us briefly group together the phenomena which are ordinarily regarded as constituting pneumonia, and which with greater or less uniformity and intensity meet us, however the pathological process may have been induced. As ordinarily understood, pneumonia is a disease exhibiting the following complex of symptoms. There are febrile excitement, indicating a general change in the metamorphosis of the tissues; a dry skin; elevated temperature; accelerated pulse; a moist furred tongue; and rigors. It is plain that, whatever the local affection may be, the entire system manifests a sympathetic disturbance. Then, specially referable to the thorax, we observe such symptoms as cough; quick short breathing; expectoration varying in character according to the stage of the disorder; and local disagreeable sensations, scarcely amounting to pain, but sufficient to draw the patient's attention to the seat of the malady. The physical signs are, more or less extensive and marked dullness, commencing at the bases of the lungs, and extending upwards; increase of vocal fremitus and resonance; deficient respiratory murmur; crepitation; tubular or bronchial breathing and large mucous crepitus, with diminished expansion of the thoracic walls. When we find a certain number of these signs associated in the same individual, we pronounce him to be suffering under one of the stages of pneumonia through which the process usually passes.

You have watched the cases to which I am about to refer with me; and you will bear me out that I have invited you, whenever we have visited the patients together, to verify for yourselves the presence of the symptoms I have briefly recapitulated.

The first illustrative case that I wish to remind you of is that of Henry Lee, aged 26, a well-built, robust porter, working at the Great Western Railway, who was admitted on May 24th, 1867, into the Albert Ward. He had been in good health until five days previously, when he had an attack of rigors, accompanied by sickness and purging. He had had no illness for seven or eight years before this seizure. There was pain at the lower part of the thorax on each side, causing a catching when he drew his breath; and he could not speak with ease, on account of the dyspnoea. There was, on admission, no dullness or crepitation in front; nor was there crepitus at the dorsum; but there was well-marked dullness over the lower half of the dorsal aspect of the right lung, with bronchial *souffle*. According to my usual plan, where the symptoms are not sufficiently urgent to demand immediate interference, I merely ordered him to bed, and put him on low diet, waiting for the next day to obtain a clear view as to the tendency of the disease. There are many cases in which it would be wrong to lose any time; but, on the other hand, there are many which suffer from too active interference; and practically it is found, especially among the poorer classes, that the mere effect of rest, warmth, and properly regulated diet, materially alters the aspect of a case in twenty-four hours. By at once prescribing medicines, our conclusions as to their value are apt to be vitiated, as they are complicated by the powerful influence exerted by the changes just alluded to. In the case before us, nothing was lost as regards the progress of the patient. All pain was gone, but the dyspnoea continued. No crepitus was discovered; but the dullness, bronchial breathing, and bronchophony showed that there was well-marked pneumonic consolidation of the right lung, manifestly of an acute, but, as far as the accidents and present condition of the patient indicated, of an uncomplicated character. I saw no indication in the symptoms or in the tendency of

the disease for active medication; and, believing that the natural powers of the individual would, when placed under the most favourable conditions as regards temperature, rest, and regimen, suffice to ensure a satisfactory result, I merely ordered camphor mixture, to prevent the patient from thinking himself neglected. The effect was as favourable as could have been desired. The report on May 27th, three days after admission, says that he felt much better; had no pain, except in drawing a long breath; and that coarse crepitus was to be heard at the right base. By May 31st, the breathing was very much improved; the bronchophony had disappeared; the patient expressed himself as being much relieved; and, with the exception of some slight crepitation, the local signs had nearly disappeared. There was some debility, on which account quinine was prescribed, and he was allowed ordinary diet. He continued to improve steadily, and on June 4th was discharged perfectly well.

In recurring to this case, I am inclined to think that no medication could have accelerated the recovery. Certainly, anything approaching to heroic treatment by bleeding and blistering, purging, and tartrate of antimony, might have shown what powerful weapons the physician was able to wield; but this *nimia diligentia* would have ensured a protracted convalescence, and possibly have weakened the patient for life. It was a case of acute, simple, uncomplicated inflammation of the lung-tissue, which would have been a great triumph in the hands of a homoeopathist, inasmuch as, in regard to medicine, a sugar-pill was less likely to interfere with the curative powers of nature than potent "treatment" of any kind *selon les règles de l'art*. But is such inactivity always to be recommended? I think not; and, by way of contrast, I will give you the summary of a different case, in which the symptoms appeared to justify venesection, which was promptly administered, and with what result you will immediately be able to determine.

Robert Hill, aged 22, a driver, was admitted November 13th, 1867. He had had rheumatic fever three years before, but had enjoyed good health since. He had caught cold on the 7th, a week previously to admission; but had gone on working till the day before, when he was compelled to remain in bed on account of the severity of his cough and dyspnoea. On admission, he complained of great *malaise*. There was intense dyspnoea, much short cough, a furred and dry tongue, hot skin, and a morbillar rash over the trunk. The air entered well over the front of the chest, and only occasional moist râles were heard here; but at the back there was dulness over both bases, with fine crepitation and tubular breathing over the lower right third. The pulse was 84, and soft; the respiration 56; and temperature $101\frac{1}{2}$ deg. Fahr. The symptoms in his case were so urgent, the dyspnoea so great, and the man so evidently of plethoric habit, that the indication appeared absolute that means should at once be taken to relieve the pulmonary congestion and inflammation by the most direct method. Accordingly, I ordered a venesection to the amount of six ounces, together with acetate of ammonia mixture, containing one-twelfth of a grain of tartrate of antimony, to be taken every three hours. If our predecessors of the "bleeding" school met with many such results as we experienced in this case, it was no wonder that they regarded venesection as a sheet-anchor; for the disease was clearly "knocked down" by it. The patient expressed himself greatly relieved by the venesection on the following day. His breathing was quiet, the skin cool and moist, but the face rather dusky. There was still dulness at the posterior bases, and there were occasional creaking râles. On the 15th, the respirations were 24; the pulse was reduced to 64; the temperature $98\frac{1}{2}$ deg. Fahr. Except occasional sonorous râles at the bases behind, the lungs were restored to their normal condition. No relapse took place; and, a few days afterwards, he was discharged cured.

Here, too, we had to deal with a well-marked acute case of pneumonia, of a very sthenic character. It was in the first stage; and therefore it was pathologically intelligible that a venesection might, by relieving the congestion of the lungs, induce a speedy cure. The result justified the anticipation; and no ill effects were left by the proceeding, as the patient, after a short convalescence, entirely recovered his health. Here we had to deal with a complication with an exanthem which doubtless increased the febrile excitement and dyspnoea, but which was only an accidental coincidence. My belief is that, without active treatment adopted at the outset, the pneumonia would have persisted after the measles had disappeared, and a much more tedious and protracted pulmonary affection would have had to be dealt with than it now proved. Pneumonia is not, like bronchitis, an ordinary complication of measles. The poison of the latter expends itself upon the respiratory mucous membrane, and does not light up parenchymatous mischief. We are, therefore, justified in regarding the complication of the two diseases in the instance before us as a mere coincidence.

In the instance that I shall next bring before you, the pneumonia was associated with an inflammatory affection of a constitutional kind,

which aided materially in the recognition of the intimate nature of the malady. The association in this case was not a mere coincidence, but the relation of the two conditions was that of cause and effect. The latent and pervading disorder was rheumatism; and the irritation of the rheumatic poison upon the pulmonary tissue gave rise to pneumonia, similarly as it caused inflammation of the wrist, as in other cases it may induce ophthalmia, or meningitis, or a cardiac affection. The complication of pneumonia and rheumatic fever is not the most frequently met with; still the fact of our having two cases of an exactly similar character in the wards at the same time shows that the indications to be derived as to diagnosis and treatment are well worthy of your attention. I shall not in this lecture recur to the second case; but you will remember that they lay opposite one to the other in the Victoria Ward. In the one under consideration, the pneumonia was the first disorder to attract attention; in the other, rheumatic inflammation of the large joints was the first prominent symptom, though speedily followed by genuine pneumonia of the left lung. We are all liable to fix certain prominent phenomena upon our minds as associated with disease, to the exclusion of others that may not occur with the same frequency, but are of the same importance as regards the individual case. So we all look for synovial or serous inflammations in rheumatism, but are apt to forget that the poison which induces them may well be held responsible for the production of inflammation in other structures. Moreover, if we possess any means of neutralising the poison or vicious product that determines rheumatic inflammation, it is manifest that the recognition of the fundamental morbid condition upon which the pneumonia is based is of the utmost importance, because it would materially influence the treatment. An inflammation dependent upon a peculiar acid pervading the system would necessarily require to be combated by remedies aiding in the elimination or neutralisation of the acid; while in another case—as, for instance, one dependent upon a *materies morbi* resulting from imperfect depuration of the *débris* of nitrogenous tissues accumulated in the blood, or one dependent upon mere asthenia—a very different method of medication would be demanded.

The chief points of the case are as follows. Ann Gregory, aged 15, of a very rheumatic family, the daughter of a painter, was admitted on the 29th November, having been seized with a cold and pains all over the body a week previously, followed by some swelling of the lower extremities. On admission, there was great general *malaise*, but no swelling or inflammation of the joints. The pulse was 92; the tongue furred; the temperature 100.8 deg. Fahrenheit. She slept badly the first night, and was delirious. The day after admission, there was much dyspnoea, pain in the left hypochondrium, with marked dulness below the fourth rib on the left side, and dulness at both bases posteriorly, more marked and extensive on the left than on the right side. No friction-sound, but sonorous rhonchi. Pulse 120; respirations 60; temperature 100.2 deg. Fahr. She was ordered mist. ammon. acetatis, with small quantities of morphia. On December 1st, the rheumatism showed itself more distinctly in a severe inflammation of the right wrist-joint, with exacerbation of all the general symptoms. The pulse having risen to 144 and the temperature to 102.4 deg. Fahr., an alkaline lotion with laudanum was applied to the wrist, and imperial ordered as a drink. On the following day, leeches were applied to the left thorax with marked benefit, and a small quantity of antimony was added to the mixture, and from this time the case progressed favourably. The pulse ran down at once to 100, and the temperature sank to 100.2 deg. Fahr. A well marked crop of patches of erythema marginatum appeared successively on the trunk and lower extremities, dying away in a few days. The breathing at first became more bronchial at the left base behind; then redux crepitation occurred; pulse, temperature, and rheumatic inflammation gradually subsided. By the second week in December, convalescence was perfectly established; her strength and healthy complexion returned; and on Dec. 23rd, she left the hospital apparently quite cured both of the rheumatism and the pneumonia.

As in the last case the nature of the pneumonia was not rightly appreciated until its connexion with the rheumatic poison became evident, so in the following the typhoid fever-poison gave the proper clue to the inflammatory affection of the lungs with which the patient was admitted; though it masked the former, which was not clearly established until five days after the man had been under observation.

John Little, aged 23, a labourer, was admitted on Nov. 7th, and discharged cured on Dec. 14th. He attributed his illness to working in a draught on Oct. 30th. There was much cough, hoarseness, and dyspnoea; skin hot and dry; temperature 102.2 deg. Fahr.; tongue dry and furred. Pain in the chest only on drawing a deep inspiration. Dulness on the right side below the nipples, with crepitation and sonorous râles; the breathing tubular as you approach the base of the lung; sonorous râles under the left clavicle. Ill defined crepitation and sonorous râles at the right back. The sputa soon became rusty, and were streaked with blood.

The pulse 96, weak. Six leeches, with saline mixture containing one-twelfth of a grain of tartrate of antimony, followed by a blister, appeared to give temporary relief; but, on the 11th, typhoid symptoms set in; the temperature rose to 39.5 deg. and 40 deg. cent., with the pulse 110; the tongue became brown, and there were sordes on the teeth; there was much diarrhoea, and the patient complained of greater exhaustion and the cough becoming more troublesome; the physical symptoms indicating, in addition to the pneumonia, diffused bronchitis. On November 13th, there were pain in the right iliac fossa; typhoid (rose) spots over the abdomen; great weakness and depression; skin hot and dry; temperature in the morning 39.5 deg. cent. (103.1 deg. Fahr.) The pulse, respirations, and temperature, at 3 P.M. on this day, are noted respectively at 104, 40, and 104½ deg. Fahr.; the urine being rendered turbid by nitric acid, but cleared by heat. He was now ordered four ounces of brandy, in addition to the following mixture.

℞ Ammon. carb. gr. iij; tinct. camph. co. ʒss; decoct. cinch. ʒj. Fiat haustus ter die sumendus.

Linseed-meal jackets were also applied. The bronchopneumonia continued to give great trouble both to doctor and patient; but there could be no doubt as to the propriety of directing treatment rather against the typhoid fever than the complication. The tenderness of the abdomen and the diarrhoea subsided by the 16th, and the symptoms of fever, as to thirst, pulse, and temperature, also abated. It is unnecessary to give the daily reports of the case; suffice it to say that on the 26th the pulse was 92; the temperature 37 deg. cent.; the respirations still being at the high number of 44; the consolidation of the right base was disappearing, and the bronchitic râles also were much reduced. The cough and expectoration gradually yielded; the strength improved; and on the 14th Dec. I was able to discharge him from the hospital.

In this case, the urgency of the symptoms necessitated, in the first instance, the application of leeches and the administration of tartrate of antimony. Probably the patient might have done equally well without them, had we foreseen the typhoid fever which was well marked. As it was, the lowering remedies were replaced by medicines acting differently on the system as soon as there was a suspicion of the presence of typhoid. This fundamental disorder further explained the obstinacy of the pulmonary symptoms, which appeared to benefit little by any of the remedies employed until the fever had run its course.

I shall have many opportunities of recurring to the principles I have laid down in this lecture, and of illustrating them by other instances. Let me now only ask you to bear in mind the fact demonstrated, I think clearly, by the foregoing cases, that pneumonia varies very much in its intimate nature, although presenting physical signs that closely resemble one another in the different cases; and that, in order to treat pneumonia scientifically and with the greatest benefit to the patients, due regard must be had to these complications, and that there is no such thing as uniform or routine medication for the disease.

ONE HUNDRED AND FIVE DEATHS IN AN EMIGRANT SHIP.—The Hamburg ship *Liebnitz*, Captain Barnhold, from Hamburg, after a passage of 60 days, arrived at quarantine, New York, on January 11th, having had 105 deaths from cholera during the passage, 70 adults and 35 children. Two days afterwards, her surviving passengers were transferred to the hospital ship *Illinois*, except a few who were retained on the *Liebnitz* to assist in cleaning it. The vessel was in a very filthy condition. Two more passengers have since died. The rest at the latest date were doing well. The captain says many of those who have died were victims of ship fever and cholera infantum. The *Liebnitz* sailed from Hamburg on the 12th of November for New York, with 9 cabin and 433 steerage passengers, a crew of 23 men, and a general cargo of merchandise. The total number of persons on board was 465, which was further increased by 8 births on the passage. On the 21st of November, a young woman from the Duchy of Mecklenburg was attacked by symptoms of cholera, and died on the 23rd, after intense suffering. The disease first made its appearance among the emigrants from Mecklenburg, where the cholera was raging when they left. The disease spread through the entire ship and raged over four weeks. There was no surgeon on board, and the officers of the ship had to attend the patients. The weather was warm while the disease raged, but on the 27th of December the weather became cooler, and the disease abated. No new cases occurred after the 6th of January. Many heartrending scenes occurred in the unfortunate ship, and in some instances whole families died. One hundred and forty-five were attacked, of whom only forty survived. On the arrival of the ship at quarantine, at New York, all the passengers, with the exception of six or eight, were in apparent good health. Only one of the crew died. The captain says that many cases proved fatal in a few hours. Eighty-four of the dead were from Mecklenburg.

SURGICAL MISCELLANIES.

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II.—ABSORPTION OF DEAD BONE, AND EXFOLIATION, WITHOUT SUPPURATION.

The following case is probably worthy of being recorded at present, when the attention of surgeons is directed to the healing of wounds and absorption of dead bone.

On the 21st of last May, a strong man, aged 30, being intoxicated, fell asleep near a lime-kiln, and was severely burned on the left side of the head, as well as on the left foot. The upper part of the ear was burnt away; and the parietal region presented a black leathery slough of great extent. The blistered and erythematous parts round about were protected with cotton-wool, and the sores dressed with a lotion of permanganate of potash, which was the only application used throughout the treatment. As soon as the slough of the scalp separated, there was left a table of white and dead bone, with a healthy margin of granulations round about, and without smell or suppuration. The exposed portion of bone was about four inches in extent from before backwards, and more than three in the broadest part from above downwards; but in front it narrowed away so as to form an elongated projection from the main part, about an inch long, and half an inch broad. The connexion between this projection and the main mass of exposed bone gradually became narrowed; and in the isthmus of connexion ruddy points appeared, and became daily brighter, until the granulations from beneath, which gave the colour, completely perforated the scale of dead bone. In this way the projection was at last separated from the main mass of dead bone by a distance of about half an inch, and was reduced to three-fifths of an inch in length and two-fifths in breadth when, on July 19th, about two months after the injury, it was lifted away. The large remaining piece of dead bone continued to diminish slightly in extent, and to show new perforations here and there near the margins, till at last it became loosened, and was removed on August 19th, exactly a month after the smaller piece; it measured two inches and one-fifth from before backwards, and two and four-fifths from above downwards. I need scarcely say that not a drop of pus intervened between the dead bone and the subjacent granulations. The pressure of the granulations was probably an important element in promoting absorption of the dead bone; for it was observed that the margins of the sequestrum, although they had been considerably overlapped by granulations, were not at all thinned on the superficial aspect.

I attach importance to this case, principally as affording more indubitable evidence than any case which I have read, first, that where a squama of dead bone is separated by subjacent granulations from the living part, there may be disappearance of the dead bone, and not merely of the mineral constituents of the living bone beneath; and secondly, that this disappearance is effected, not by disintegration and throwing off of small particles, but by absorption of the material into the system.

Three other cases of casting off exfoliations by means of subjacent granulations, without intervention of suppuration, have occurred under my care within the past year. One case was an extensive burn, opening into and disorganising the knee-joint. The patient allowed nearly three weeks to pass before submitting to amputation, and during that time there was extensive suppuration from the joint and ulceration of the cartilages; but the front of the patella, which throughout its extent was laid bare by the burn and dead, was found to be adherent by a thick bed of healthy granulations to the subjacent living portion of the bone. The preparation is preserved in the anatomical museum of this College. Another case was the head of the metatarsal bone, which was laid bare in a dead state by separation of the toe in consequence of senile gangrene. Left to itself, a thin scale of bone separated, and the wound skinned over. In the remaining of the three cases to which I have alluded, the thumb of a boy of fourteen years of age had been allowed to suppurate at the interphalangeal joint; and, when I saw it, the whole joint was laid bare by an opening at the back, through which the first phalanx protruded, the surface of it dead. Bearing in mind, however, the cases already described, I placed the thumb on a small splint, dressed the wound with permanganate of potash, and let it alone. Shortly I had the satisfaction of seeing a very thin exfoliation come away from the second phalanx, and the head of the first phalanx becoming ruddy in part of its extent. Four weeks elapsed before the sequestrum, which involved a portion of the shaft of the bone, was altogether loosened. The wound healed up; and the thumb is likely to be useful, and not greatly deformed.