REMARKS

ON A

CASE OF RELAPSING OR INTERMITTENT
PNEUMONIA OCCURRING IN AN
AGED MAN.*Delivered before the Medical Society of London.*BY SIR ANDREW CLARK, BART., M.D., LL.D., F.R.C.P.,
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ON March 25th, 1884, I was summoned to see a gentleman who, for five days, had been complaining of disordered digestion, general malaise, aching of the limbs, and feverishness.

The patient was 82 years of age, tall, spare, light-eyed, and, when in health, vivacious, temperate almost to abstinence, actively occupied with private and public business, going out in all weathers, and never sparing himself when summoned to work.

In 1877, the patient had an attack of pneumonia, which, except for the greater length of its prodromal stage, closely resembled the attack which is now to be described. On that occasion, the patient was attended by Mr. Potts, and was seen from time to time by Sir William Gull and myself.

The patient made light of the illness for which I was summoned to see him, and referred it to a chill, which he had caught by sitting down in the park, without an overcoat, when overheated by a long ride. At the time of the examination, the patient looked pinched and ill; the eyes were dull; the face was yellowish; the tongue loaded; the appetite gone; there was some thirst; the bowels were inadequately relieved; the abdomen was full; and the high coloured urine, free from albumen, was loaded with lithates. Beyond feeble breathing at the posterior base of the right lung, nothing was discovered in the chest. The heart, fairly strong, was beating with clear sounds, and without murmur, eighty-six times in the minute, and a sufficient amount of blood reached the smaller arteries, which were exceptionally soft, and otherwise sound. The temperature in the mouth was 102°. The skin was hot, pungent, dry. Nothing definite was discovered in the nervous system; but the patient complained of a dull headache, and of difficulty of mental exertion. A double inguinal hernia had existed for some years.

The patient was ordered immediately to bed, placed upon fluid food every two hours, and had his usual alcoholic supplies, which were very moderate, temporarily suspended. There were, furthermore, prescribed for him a simple saline at short intervals, and a mild dose of colocynth and blue pill to be taken at 10 o'clock the same night.

On the 26th, the patient was in much the same general condition as on the previous day; but there had been a severe rigor late in the afternoon. The temperature had risen to 103°; the pulse was 94; the breath-sounds at the right posterior base were very feeble, with slightly heightened resonance; and the patient felt weak.

The chest was surrounded by a hot poultice. The saline was continued, with two grains of quinine added to each dose, and given every two hours. The colocynth and blue pill was repeated at night, and an enema was ordered to be administered the next morning on waking. From this time to the conclusion of the illness, the patient was attended twice or thrice daily by Mr. James Newham. To his care and skill was in great measure due the happy issue of the case, and to his ready kindness I am indebted for many of the facts recorded in this narrative. For the reflections which follow, I am myself alone responsible.

On the 27th, the patient had another severe rigor; the general condition was otherwise unaltered; the enema had brought away copious foetid feculent discharges from the bowels; the breath-sounds at the posterior base of the right lung were still very feeble, but a faint hollow bronchial breathing had become just audible, and the vocal resonance was slightly increased. The left lung remained free. The treatment was continued.

On the 28th, there was another rigor, and the patient felt ill and weak. The mouth and tongue were dry; thirst was becoming urgent; the bowels were again freely relieved; the urine was passed freely, had a density of 1014, was free from albumen, and deposited purple lithates. The pulse was 104, of moderate fullness and strength, and

the ventricular sounds were regular and good; the temperature at 4 p.m. was 104°. There was dullness over the posterior base of the left lung; the breath-sounds were harsh, granular, loud; there was faint distant bronchial breathing, and the vocal resonance was increased. The respirations were twenty-four per minute, but there was neither cough nor expectoration. The diet was continued. Half an ounce of brandy was ordered twice or thrice daily, according to circumstances. A fresh saline, with a little citrate of potash, was prescribed, and five grains of quinine were directed to be given in water twice or thrice in the twenty-four hours.

The report of the 29th was that the patient had passed a very restless night, but that there had been no fresh rigor. In the morning the temperature was 100°; the pulse was 80; and the respirations were 28 per minute. At my visit in the afternoon, the patient expressed himself much better. The tongue was cleaning; food had been taken in sufficient quantities; thirst had abated; the bowels had been satisfactorily relieved; the urine was copious and clear; and the pulse, temperature, and respiration were the same as in the morning. A great change, however, had come over the condition of the base of the right lung. There were now complete dullness to percussion, increased tactile vocal fremitus, tubular breathing, and loud bronchophonic voice. There was no pain, no distress of breathing, which had risen to 30 in the minute; no cough; no expectoration. The treatment was continued as before.

On the 30th, the patient improved in all ways, and began to talk of getting up. Temperature, 99°; respiration, 28; pulse, 84. Treatment continued.

Early on the morning of the 31st, the patient had a rigor, and became rapidly worse. At 11 a.m. the temperature was 103, the pulse was 110, the respirations were 32. The tongue was loaded and dry; the abdomen was full and tympanitic; the urine was scanty and dark. In the evening, the patient, although still very ill, was somewhat better than in the morning. Since the previous day a fresh consolidation, about three fingers' breadth, had occurred in the middle of the right back, from the axillary line to the spine. The treatment was continued; an aperient was prescribed in addition.

On April 1st, the patient was again much better. The tongue was cleaning; food was again relished; the abdomen had become soft; the bowels had been abundantly relieved; the urine was clear, copious, and free from albumen; the condition of the right lung remained much the same, without discernible sign of reparative resolution. The respirations were 36; the pulse was 90; and the temperature 101°.

The treatment was not materially altered. It consisted of food every two hours; an alkaline saline every four hours; half an ounce of brandy, diluted with water, twice or thrice in the day; quinine twice or thrice in the twenty-four hours, in doses of five or more grains; occasional aperients and hot poultices.

In the early morning of April 2nd, the patient spoke of himself as well. He had passed a good night, felt no discomforts, and desired food; the tongue was again cleaning; thirst had ceased; the bowels had been comfortably relieved, the urine was abundant and natural; the heart was acting well; the pulse had fallen to 84; the respirations were 34; the temperature was 98.2°, and the skin had become moist. Large moist crepitation was heard at the base of the right lung, and repair was obviously in progress. In every respect, locally and constitutionally, the condition of the patient appeared to be exceptionally satisfactory. Nevertheless, within four hours of the time when this state was seen, the patient had a very severe and prolonged rigor; and, when I saw him late in the evening, he was extremely exhausted and distressed; the pulse and temperature had risen; the breathing had become more frequent; for the first time, there was a little cough; the tongue had become dry, the face bluish, and the extremities cold. On examining the chest, it was found that a fresh strip of consolidation had arisen in the upper and back part of the right lung. Repair at the base of the lung had not advanced.

The quantity of alcohol was increased to three ounces of brandy in the twenty-four hours, and it was given in hot water; free ammonia and quinine were added to the saline; five grains of quinine were given separately every six or eight hours in the course of the day, and hot bottles were placed around the patient's extremities.

On the morning of April 3rd, it was reported that the patient had passed a comfortable night, and was better. The tongue was less dry; food had been taken regularly, although the stimulant had been once or twice refused; the bowels had been relieved; the urine was high-coloured, loaded with lithates, and free from albumen; there was neither cough nor expectoration; the breathing, although frequent, was not distressing; the temperature was 93.3°, and the pulse 80, but weak and small.

In the evening of the same day the temperature had risen to 103°;

the pulse was 100, and the respirations were 34. The consolidation in the upper part of the right lung was extending. Nevertheless, the patient was comfortable. Food was regularly taken; repair at the base of the lung was advancing; there was neither cough nor expectoration.

From the morning of the 4th to the evening of April 5th, the patient again rapidly improved. Then the patient became suddenly chilly; the temperature rose to 104°, and the pulse to 106. The mouth became dry, and there was thirst. The patient grew restless and uneasy, and, although by nature good tempered and of gracious manners, he rebelled against all treatment.

Except as respects the administration of food and stimulants, often refused, all treatment was suspended. On the morning of the 6th the patient was again looking and feeling much better. The pulse was about 88, the temperature was 97.2°; food was being taken, and repair was making rapid progress at the base of the right lung. About noon, however, the patient had a sudden, severe, and prolonged rigor, during which he became cold, livid, and almost pulseless and insensible. From this state the patient was recovered by frequent supplies of hot, strong soup, and by the use of half an ounce of spirit in two ounces of hot water every two hours. In the evening there was slight dullness to percussion at the base of the left lung, and the respiratory sounds were extremely feeble. The patient had recovered from his collapse, and the skin, although everywhere very dry, was cold only at the extremities. The pulse was 116, the respirations were 40, and the temperature was 104.5°.

The treatment was confined to food and stimulants. On the 7th there was another rigor, and the patient became so much exhausted and so cold that he was revived only with difficulty. Consolidation, to the extent of a hand's breadth, had taken place at the base of the left lung.

In the evening the patient was worse than he had yet been, slightly delirious, and difficult to manage. Twice or thrice, when almost pulseless, he managed to leave his bed, and to stand up in the effort to relieve his bladder. On one of those occasions he fainted, and was restored with difficulty. The temperature, which in the morning was under 96°, was now 105°.

The patient was surrounded with hot bottles; greater firmness was employed in the administration of food and stimulants; and the use of quinine and ammonia in diaphoretic form was successfully resumed.

During the 8th the patient continued in much the same condition. Each day, about 12.20, there was a rigor. On the evening of the 10th it was found that a second consolidation had taken place in the middle of the back of the left lung.

Food and stimulants were now taken with fair regularity, and from ten to twenty grains of quinine were given in the twenty-four hours.

On the 11th and 12th there were no rigors, and the patient began to improve in every way, and in the same manner as he had done on several occasions before. In the evening the temperature was 104.5°, and the pulse 114. The respirations were 44. The right lung was still rapidly improving. Large crepitations were heard at the base of the left lung; the consolidation at the middle of the lung was unaltered, except that tubular breathing had been replaced by hollow bronchial breathing; and over the upper fourth the respiratory sounds were either very feeble or very harsh; the resonance was not distinctly altered. The treatment was continued.

On the morning of the 14th, the patient was reported to have passed a fair night; to have taken sufficient food and stimulants; and, although extremely weak, to have felt more comfortable and more himself than for some days. The temperature was 96°, and the pulse 108; the respirations were 40. The tongue was moistening at the edges; there was no thirst; the abdomen was soft and small; the bowels had been comfortably and naturally relieved, and the urine was copious. The skin, although still dry, was softer. The intellect was quite clear. There was no distress of breathing, and only occasional cough, with a little frothy mucoid expectoration of a viscid sort.

About the usual time, however—that is, between twelve and one—the patient, without having a distinct rigor, and feeling only “strangely chilly,” began quickly to fail. The mouth dried, the extremities became cold, the skin turned dusky, dry, and hard; the breathing was hurried and difficult; and the pulse small, weak, and irregular; the face grew livid, pinched, and anxious, and he looked like a patient who was suffering from cholera, and about to die. Nevertheless, supported by pillows, the patient sat up in bed, and, apparently much distressed, clutched a vessel, into which he desired, but was unable, to expectorate. In this state the patient remained for over four hours, refusing food, and taking only once or twice a spoonful of brandy in water.

About five, the patient began to recover; and, at my evening visit

with Mr. Newham, was able to be examined. It was then found that the upper and remaining portion of the left lung had become consolidated. The tongue was loaded and dry; distaste for food and stimulants continued; the urine contained a little albumen; and the bladder acted with difficulty. There was no cough or expectoration; and, although the respirations were 48, there was no distress in breathing. The heart-sounds were rough, and the arteries small; the pulse was 116, compressible, and irregular. Air was everywhere entering the back of the right and the base of the left lung. Coarse moist crepitations were heard over the middle consolidation, and bronchial breathing had disappeared. The treatment pursued was the same as before, except that, in addition to it, the patient, at the suggestion of Dr. Andrew, who saw him several times in my absence, took five drops of liquor strychniæ thrice daily.

On the 15th, the patient's condition was greatly improved; but, in the evening, the temperature was 103°, the pulse 110, and the breathing hurried. Nevertheless, the patient insisted on having his bed made, and was none the worse for it.

On the 16th, the patient was again greatly better. The tongue was cleaning; the appetite had returned; the bowels were, with a little help, acting satisfactorily; the urine, passed without difficulty, was clear, copious, and free from albumen. The back of the right lung was still somewhat dull to percussion, but everywhere the air was heard entering the alveolar passages, and there were no *râles*. Over the upper half of the posterior part of the left lung, there were still dullness to percussion, moist subcrepitant *râles*, and increased vocal resonance. The heart was regular in action; the pulse had fallen to 86; and the evening temperature was 98.5°. The patient had slept a good deal during the day, but awoke always refreshed.

The patient was now directed to have food of a semi-fluid sort every four hours; to have from two to three ounces of claret at 11, at 2, and at 8; and to take an effervescent solution of citrate of potash, with quinine, iodide of potassium, and iron.

On the 17th, the lung was almost clear, and the patient was, in every other way, so much better, that he insisted successfully in passing an hour on the sofa during the evening.

It is unnecessary, and it would be tedious to continue in detail, the remaining part of the narrative of this case. Let it suffice to say that the patient, notwithstanding sundry indiscretions, continued to improve daily, and that, on May 6th, after having passed through nine or ten severe rigors, six small successive attacks of pneumonic exudation, and seven weeks' illness, was declared to be quite well.

I saw the subject of this narrative a fortnight ago. Since the termination of his illness he had continued to enjoy good health, and was actively engaged in the business of public as well as private life.

REMARKS.—It will be seen, in the early part of this narrative, that the patient ascribed his illness to a chill; but, dissatisfied with the insufficiency of his explanation, we endeavoured to find, in the patient's antecedents, surroundings, or present personal condition, some cause, or concurrences of causes, adequate to account for the exceptional characters of his case. We thought of filth-poisoning and malaria; of phlebitis, hemorrhoids, prostatitis, and phlegmon; of autogenic poisoning, thrombosis, and gout; but of all these possible modes of causation, only two had reasonable grounds for consideration, and neither of the two was satisfactory. Was the origin of the attacks to be found in gout, which sometimes manifests itself in anomalous visceral seizures of the kind suffered by our patient? But he had never had gout; he had never lived the life which leads to it; he was too old for the first manifestation of the gouty inheritance; and he had no signs of the gouty habit beyond those which may be found in every aged man. It is true that the country home of the patient was alleged to be malarious, and that several ponds stood near the house. On the other hand, no evidence of malarial disease was to be found either in the family of the patient, or among the people dwelling in the neighbouring parts. In these circumstances, we prefer confessing our ignorance to advancing an inconclusive hypothesis.

I have ventured to bring this case before the Society because, in the character, assemblage, and progression of the symptoms, in the frequency of the relapses or recurrences, in the severity of the rigors preceding them, in the age of the patient, and in the happy issue of his illness, the case, in the annals of medicine, is rare, if not unique; because in the records of exceptional cases are sometimes to be found not only unexpected helps to the advancement of our knowledge, but also criteria whereby the accuracy of our generalisations may be tried; and especially because the history of the case is one which raises anew those problems concerning the nature of pneumonia, now widely and warmly discussed throughout the profession.

In pneumonia, is the local lesion the sole cause of the accompanying fever? Or is pneumonia a fever which has inflammatory consolidation

of the lung for one of its local manifestations? And if pneumonia be primarily a fever due to a poisoning or to a parasite?

As, however, these questions have been recently discussed with as much breadth and as much minuteness as the present state of knowledge would permit, it is not my intention to deal with them on this occasion. But among all the questions raised concerning the nature of pneumonia, there is still one, and a very important one, which has been almost wholly overlooked. Every one appears to have asked if pneumonia is not a fever, but scarcely anyone has asked if pneumonia is really an inflammation. In the admirable work of Dr. Sturges, who regards pneumonia as a fever-begetting inflammation, it is said that, in pneumonia, the phenomena of inflammation are conspicuously exhibited; that in it both the clinical and anatomical requirements are satisfied; and that there are present all the classical results of the inflammatory process—pyrexia, exudation, migration of leucocytes, cell-proliferation, and excess of tissue-change. Pneumonia, he says, is not only an inflammation, but it is the pattern and model of all inflammations.

Now I propose to say a few words upon this question, which has long occupied my thoughts, and which I dealt with at some length in a lecture delivered at the College of Physicians in 1866.

If we proceed to examine critically a bit of hepatised lung, three chief points demand attention—the solid exudation, its relation to the alveolus, and the condition of the alveolar cells.

When recent, the pneumonic exudation consists essentially of leucocytes, red blood-discs, hyaline globules, granule-cells, and desquamated epithelium, all interpenetrated and held together by a delicate network of the finest threads of fibrine. For our present purpose, the epithelial cells may be dismissed from consideration. Now collectively these elements resemble a capillary blood-clot, and not an ordinary fibrinous exudation. Everywhere you can see signs of regressive involution, and nowhere signs of true advancing development. However "healthy" the exudation, and however early you may examine it, the number of red discs present in it often equals, and sometimes much exceeds, the number of the leucocytes, whilst many of the leucocytes may be proved to be nothing more than red discs undergoing histolytic changes. Furthermore, the fibrinous network differs in many respects from that of an ordinary inflammation, resembles closely that which is formed in small blood-clots.

When we examine the relation of the exudation to the alveolar wall, we discover no evidence of any organic connection between them; and from each pneumonic alveolus a practised hand, furnished with a needle, can turn out the little lump of exudation without apparent injury to the alveolar walls.

Nor does a critical study of the alveolar walls in a hepatised lung furnish us with any conclusive evidence of the inflammatory nature of a pneumonia. With two exceptions, no manifest structural change can be found therein. Instead of being swollen and very red, as one would expect them to be after being the seat of an inflammatory exudation, the alveolar walls are pale, thin, blanched as if from loss of blood, and devoid of any sign of active textural change. Furthermore, many of the alveolar blood-vessels are occluded—a fact which distinguishes the pneumonic from every other acute parenchymatous inflammation. In nephritis, for example, Dr. Johnson has shown us, not only that the blood-vessels of the acutely inflamed kidneys are not occluded, but that they are enlarged.

The resemblance of a pneumonic exudation to the croupous exudation of mucous membranes, and of the pleura and even peritoneum, has been admirably set forth by Hamilton; but, in my opinion, the conditions are far from being identical; and, in croupous inflammations of the mucous membranes and the pleura, structural changes may be found which do not exist in the pneumonic lung. Nevertheless, Hamilton himself says, what I, too, have said before, that croupous inflammation is not to be reckoned as a true inflammation.

Here, then, in a pneumonia is a sometimes enormous consolidation; and yet, as I believe, no conclusive signs of a prolonged inflammatory process; signs of slight exudation and of great extravasation of all the elements of the blood; but no signs of active cell-proliferation in the exudation, no signs of interstitial structural change in the alveolar walls, and no sign of an organised bond between them.

How is this to be explained? Is it sufficient to say that the alveolar tissues are of such a sort, and supplied with blood of such a kind, that they cannot undergo any other manifestation of the inflammatory process? But this cannot be the explanation; for, when the alveolar tissues are cut by an instrument, or ploughed up by a bullet, or irritated by bits of stone or steel, or pressed upon by indurated tubercles, or invaded by inflammatory processes from the pleura, air-tubes, or interlobular tissues, they behave like any ordinary part, and produce an exudation which soon becomes rich in migrated leucocytes, proliferating cells, and developmental tissue-change.

Once again, then, what is the explanation of the pneumonic consolidation? At present, for my own part, I can say only that the facts admit of the most complete explanation on the assumption that the consolidation is the result of an active congestion (or aborted inflammation) of tissues, in which the blood-vessels, almost unsupported and naked, give way to sudden pressure, sufficiently prolonged to permit, with a slight exudation, the extravasation of all the elements of the blood before the inflammatory process, if begun, can be carried to its classical completion in cell-proliferations and textural development.

If you still say that the pneumonic consolidation is an inflammatory exudation, I will still reply that the rapidity with which hepatisation occurs, the rarity with which it remains, and the rate at which it disappears, are incompatible with the history of the products of any other recognised inflammation.

But, in a communication of this kind, I must not weary you with further histological details. Returning, therefore, for a concluding moment or two, to the case which has led me into this long digression, I will anticipate and answer a question, which, in a practical society such as this is, will surely be put to me when I conclude.

What were the general principles which guided us in the treatment of our patient? It might very justly be replied that there are no general principles in medicine, that it is one of the most unprincipled of arts, that every case is a law to itself, and that only in the patient himself, in the assemblage of conditions constituting his disease, in the character of his surroundings, and in the special ways in which death is threatened, are the rules of treatment to be found. Well, as the result of our study of all these things, we gave our first attention to the man and the next to his malady. In the first place we endeavoured to support life by relays of nourishing fluid food freshly prepared, not too liberally given, lest we should overcharge the pulmonary vessels and dangerously increase exudation, and not too frequently, lest we should outrun the digestive powers and increase the patient's peril by filling his bowels with decomposing stuffs.

In the second place, we endeavoured to promote the vigour of the circulation by the administration of alcohol in such forms and doses, and at such intervals, as seemed best calculated to strengthen and steady the ventricular contractions, without interfering with the chemical changes of digestion, or dulling too deeply the nervous sensibilities.

In the third place, we endeavoured, by hot spongings of the skin, by gentle but regular evacuation of the bowels; by light, air, and moderate warmth; by the avoidance of noise and fussiness, and by all quiet, cheerful, and encouraging ways, to keep the man and his mind in the general conditions most favourable to physiological resistance, endurance and repair.

In the fourth place, we tried by alkaline, diaphoretic salines to promote secretion, and to keep the mucous and cutaneous surfaces at work; and by quinine, in full and frequent doses, to lower the temperature, restrain the rigors, and control septic involution.

And, lastly, when in the course of the malady, unexpected and inexplicable symptoms arose, we treated them as best our physiological or empirical knowledge would permit, regarding carefully on the one hand the general condition of the patient, and on the other hand the inroads made upon his breathing capacity.

Not high scientific treatment this, you will say. Perhaps not. But for any adverse criticisms upon this point, Mr. Newham and I will console ourselves with the reflection that, nevertheless, the patient recovered, and is well.

BEQUESTS AND DONATIONS.—Mr. Eustratios Ralli, of 93, Lancaster Gate, and Putney Heath, has bequeathed £500 to St. Mary's Hospital, and £500 to the Royal Hospital for Incurables at Putney.—Mrs. Ann Bean, of 166, Lewisham Road, Lewisham, has bequeathed £200 each to the Royal Kent Dispensary, Greenwich, the Earlwood Asylum for Idiots, the City of London Truss Society, the Seamen's Hospital at Greenwich, and the British Home for Incurables.—The Cumberland Infirmary, Carlisle, has received £100 under the will of Mr. William Atkinson, of Aglionby.—Mr. George Sturge has given £500, additional, to the Hospital for Women, Soho Square, and £250, additional, to the North-West London Hospital.—Mrs. Fitzroy Kelly has given £150 to the Victoria Hospital for Children, for the endowment of a special cot.—Earl Cowper has given £100 (an annual donation) to the Great Northern Central Hospital.

VACCINATION.—Mr. Horace Lowther, of Ventnor, has been awarded the Government grant for efficient vaccination in his district.

GYNÆCOLOGY.—We learn from the *American Journal of Obstetrics* that Dr. G. G. Bantock has been elected an honorary member of the American Gynecological Society.