

Clinical Remarks

ON A

CASE OF EMPYEMA,

Delivered May 3, 1850, at King's College Hospital,

BY DR. BUDD.

(Reported by MR. JORDAN, Clinical Clerk.)

Phthisis: tubercular perforation of the left lung; pneumothorax; displacement of the heart, and compression of the left lung; the air in the pleura after a few months entirely replaced by pus; life prolonged to a period of four years after the perforation.—Post mortem appearances.—Remarks on the case.

GENTLEMEN,—I show you here the lungs of William Haden, who was long an object of much interest to many of you, and who, for nearly four years before his death, had the left side of the chest full of pus.

The case was remarkable in many respects, and I have thought it might be instructive, now that you have the lungs before you, to recal to your minds the chief circumstance of it.

Haden was first brought under my care in King's College Hospital on the 24th of April, 1846, with pneumothorax, from perforation of the left lung, which occurred a fortnight before.

He was of a healthy family, and of temperate habits, and, at that time, a fine intelligent young man, twenty-one years of age, getting his living as a brace-maker, and working in a close room in one of the dirty courts near Drury-lane.

He told us that he had had, as long as he could recollect, a slight cough, with expectoration of dark grey mucus, occurring chiefly in the morning; and that, six months before his admission to the hospital, he spat up, by easy efforts of coughing, about a quart of florid blood.

A month after this, hæmoptysis recurred, and he then spat up about a pint of florid blood, mixed with mucus in small quantity.

Six days subsequently, hæmorrhage occurred again, and he spat up about a pint of blood more, florid as before. During this time, his habitual cough became more frequent and more violent, and was attended by expectoration of opaque mucus.

He was much weakened by the losses of blood; the cough and expectoration continued; his appetite failed, and he grew thinner, and had evening chills, and night sweats.

A fortnight before his admission to the hospital, he was seized suddenly in the night with sharp pain in the left side, between the sixth and seventh ribs, rather anterior to their middle. In a few hours, the pain extended all over the left side. It was increased by coughing and by drawing breath, and was attended, from the first, by great dyspnœa. The next day, the pain in the left side had greatly abated, but the dyspnœa had increased, and he noticed that his heart was beating on the right side. He had, also, severe pain on the right side of the sternum, bounded by a line drawn from the inner part of the left clavicle to the upper part of the right hypochondrium, and resulting, probably, from the displacement of the heart. This pain in the right side ceased in about twenty-four hours; the other symptoms continued.

On his admission to the hospital, he complained of severe pain in the left side, and of the difficulty he had in breathing. He had frequent fits of hard coughing, and spat up puriform mucus, together with a thin fluid, like saliva. There was little more than the constitutional disturbance that usually exists in phthisis, at the commencement of "softening," the pulse being 108, and the number of inspirations twenty-six in the minute.

The left side of the chest was half an inch larger in circumference than the right side, and was almost motionless during breathing, while the movements of the right side were exaggerated. A hollow sound on percussion, and very striking amphoric resonance of the voice, showed that the left side of the chest was distended by air in the cavity of the pleura. There seemed to be then very little liquid in the pleural sac. Some respiratory murmur was heard above the spine of the scapula, but nowhere else on that side. On the right side of the chest the respiratory murmur was loud and clear, except immediately under the clavicle, where some crepitus was heard. The heart was

pushed over to the right side, and upwards; its apex was felt beating just inside the right mamma, between the third and fourth ribs.

The history and the symptoms I have detailed showed clearly enough that tubercles had existed in the lungs for six months; that the three attacks of hæmoptysis, and the wasting, and the hectic fever, resulted from them; and that a fortnight before Haden entered the hospital, perforation of the left lung, no doubt from the bursting of a small tuberculous cavity, had taken place. The left pleural sac now became distended with air, which compressed the left lung towards its root, and pushed the heart upwards, and completely over to the right of the sternum. A small quantity of air still entered the upper part of the left lung; but the breathing was carried on almost entirely by the right lung, which was healthy, except near its summit, where a little crepitus was audible, and where it was inferred, in consequence, that tuberculous disease of small extent existed.

In all this there was nothing very uncommon. The symptoms were such as are usually met with in cases of the kind, and, as happens in the great majority of cases, the perforation occurred in the *left* lung.

For more than a fortnight after his admission to the hospital no particular change took place. The fever, however, and the dyspnœa, increased,—the pulse rising, at times, to 120, and the number of inspirations to 36, in the minute. During all this time he had much pain in the left side, and generally lay propped up in bed, and towards that side, "to prevent coughing." His sleep was much disturbed by the pain and fever; and when he slept, he sweated profusely. He continued to spit up a small quantity of puriform mucus, together with a thin fluid, like saliva. The left side of the chest remained distended with air, and crepitus was heard near the summit of the right lung, both before and behind. The heart still beat on the right side, and its action was regular. The urine was acid, and high coloured, and turbid with lithates, but contained no albumen. A large blister had been applied to the side, and he had taken saline medicines and sedatives.

On the 11th of May the pain in the side had ceased, and he complained only of a sense of tightness and weight there. His appetite had returned, and he slept tolerably. There was now a considerable quantity of *liquid* in the left side, with air above; and when his body was suddenly shook, there was a splashing in the chest, which was heard distinctly by persons standing near him, and also by himself.

On the 12th of May a remarkable disposition to hæmorrhage showed itself. The urine passed in the night contained a large quantity of blood; his nose bled when he coughed; the matter spat up was tinged with blood; and there were small, scattered, purpuric spots on his body and limbs.

During the three following days blood continued to pass off in large quantity with the urine; bleeding from the nose recurred frequently; the discharges from the bowels were black with blood; the purpuric spots on the skin increased in numbers; and spots of ecchymosis formed in the conjunctiva of each eye, and in the mucous membrane of the tongue and mouth. The chest-symptoms remained the same, but the pulse became more feeble and more frequent.

On the 12th of May, to restrain the hæmorrhage, he was ordered to take an ounce of the decoction of logwood every three hours. On the 15th, this was left off, and he was given instead five grains of alum, with sulphuric acid and tincture of opium, every four hours.

On the latter day, he had a persuasion, which we all shared, that he should soon die, and would leave the hospital. He continued to take the alum and sulphuric acid, and was visited at his miserable home by myself and by Mr. Warren Fincham, who was then my clinical clerk.

When he left the hospital, there was still an amphoric resonance of the voice on the left side of the chest, and a distinct splashing was heard there by himself and by others when the body was shook. He was exceedingly weak, passing a great quantity of blood with his urine; his nose bleeding from time to time; his stools dark-coloured from the presence of blood, and his body and limbs covered with purpuric spots.

He continued in this state for three days; the quantity of blood in the urine then began to diminish, and the nose ceased to bleed. In a few days more the purpuric spots began to die away, and Haden was able to sit up for some time in the course of the day. The difficulty of breathing and the cough were greatly relieved, as he imagined, by the loss of blood.

He continued to take the alum and sulphuric acid, but less frequently. He gradually improved, and on the 29th of May

the urine was quite free from blood. He was, of course, exceedingly weak, but had very little cough, and was able to sit up a considerable part of the day. The chest symptoms remained as before.

No further notes of his case were taken from this time till August. In August, the amphoric resonance on the left side of the chest and the splashing on succussion had ceased. The air formerly in the pleural sac was replaced by liquid. He had some pain in the side, on account of which a blister was applied there; but did not suffer much, and had very little cough, and was able to work quietly.

He was seen again on the 9th of October. He was then less pallid, and stouter and stronger than in August, following his occupation, and occasionally walking out for a short distance. The left side of the chest was quite full of liquid, and the breathing done entirely by the right lung; the heart beating, as before, on the right side of the sternum.

During the next three years he remained much in the same condition. He worked gently at his business, occasionally walked out, and every now and then came to see me at the hospital. He had less cough, and spat up much less than at the beginning of his illness—before the perforation of the lung took place; and complained chiefly of the difficulty of breathing, which any exertion occasioned. His appetite, in general, was good, and, for the most of the time, he was little, if at all, thinner than when he first fell under my care. The left side of the chest remained distended with liquid.

On the 23rd of last October (1849), he was admitted into the hospital again, very thin, and very weak, and with great difficulty of breathing. The left side of the chest was then greatly distended; so that the left shoulder was higher than the right, and the chest curved towards the right side. The intercostal spaces, also, were wider than on the right side, and were filled out so as to be convex and prominent. The left side of the chest was, as before, motionless during the acts of breathing, and was everywhere dull on percussion.

The heart was felt beating just under the right mamma. Its sounds were natural in character, but were very loud and distinctly audible over the whole chest, before and behind. The respiratory murmur on the right side was loud and was mixed with rhonchus, and with some large crepitation.

The sounds of the heart and the sounds of the breathing were heard distinctly over all the left side of the chest, but diminished in loudness with the distance from their origin in the right side; thus showing that they did not originate in the left side, but were transmitted through the liquid contained within it.

He had troublesome cough, and spat up a good deal of thick, opaque mucus, and could lie only on the left side, or towards it. When he was quite still, and in a suitable posture, the respirations were 30, and the pulse, 96, in a minute. The tongue was furred, and the urine had a deposit of pink lithates; but he had still a tolerable appetite. In consequence of the great distention of the left side of the chest, which evidently rendered the breathing more difficult than it otherwise would be, I decided to have the chest tapped, and the operation was done by Mr. Partridge on the 27th of October. The place chosen for the puncture was just under the sixth rib. The skin was drawn up in order that the opening through it might be valvular, and the skin and the serratus magnus and external intercostal muscles having been divided with a scalpel, a trocar was thrust into the chest; this was immediately withdrawn, and replaced by a female catheter, furnished with a stop-cock, to prevent the entrance of air when the liquid should cease to flow freely from the chest.

About a quart of very foetid pus was withdrawn. As the matter then began to flow less freely, the stopcock was turned, and the catheter removed. A sponge was then applied over the wound, and was kept in its place by sticking-plaster and a bandage. No air entered the chest during the operation or after it.

Pus continued to flow from the wound for two days, at the end of which the discharge ceased. The left side of the chest was now, visibly, much smaller than before the operation, and the patient was much more comfortable, breathed with more ease, slept better, and had more appetite. The inspirations had fallen to twenty-five a minute, but the pulse had risen to 123. The left side of the chest was, however, still an inch and a quarter more in girth than the right side, the measure being taken from the centre of the sternum, across the mamma, to the spinous process of the eighth dorsal vertebra.

A day or two after this, an erythematous blush appeared on the skin surrounding the wound; and on the 5th of November there was a collection of matter in the areolar tissue beneath.

An opening was made an inch below the original wound, and some foetid and curdled pus escaped. From this time till the 27th, when he left the hospital, there was a constant discharge of pus coming from the chest, through the wound last made. This sometimes amounted to half a pint a day, without causing any further diminution in the size of the left side of the chest, which was often carefully measured. The dyspnoea remained about the same, but he grew weaker, and the pulse quicker, having been noted on some days as high as 160 in the minute; and dropsical swelling of the face and chest and ankles came on. After this, he was visited at his own residence.

On the 4th of January it was noted that he was much more emaciated than when he left the hospital, that the face and chest were still oedematous, and that there was still a considerable discharge of pus.

A few days after this the discharge ceased, the chest enlarged again, and the dyspnoea increased.

He continued to grow weaker, and died on the 30th of March.

The body was examined on the 2nd of April. It was much emaciated, but not oedematous. The left side of the chest was greatly dilated, and was full of pus. On our first opening it, a large quantity of clear liquid escaped, which was the liquid part of the pus, the globules having subsided to the lowermost part of the chest. The heart was in the right side of the chest, where it had been felt during life, and was free from disease. There were no adhesions of the pericardium to keep it in its unnatural position. The left lung was everywhere adherent to the back part of the chest, against which it was compressed, and was very difficult to take out, on account of the firmness of the adhesions. At the part where the bronchial tubes enter the lung, there is a small portion still permeable to air, and retaining its natural texture. Higher up than this is another small portion, which, although it cannot be inflated by the blow-pipe, is not completely changed in texture. The rest of the lung is completely changed in texture, looking more like blackened areolar tissue than anything else. In the upper lobe of this lung is a compact, encysted mass, the size of a small bean, of white matter, looking like glazier's putty, evidently the result of a tubercular deposit. The right lung is healthy, except in its upper lobe, which contains many small, compact, encysted masses of white matter, like that in the left lung. In neither lung are there any secreting tuberculous cavities, or any recently formed tubercles. These masses of white matter are clearly the result of tuberculous disease, the usual progress of which was arrested by some means or other.

There are many circumstances of much interest in the history I have related to you. One of these is the length of time our poor patient lived after perforation of the lung took place. This event is usually caused, as it was in this instance, by a small tuberculous cavity, near the surface of the lung, bursting into the sac of the pleura. It leads, of course, to the effusion of air and of the pus contained in the tubercular cavity into the sac of the pleura; and, as it occurs in cases in which there are not extensive adhesions between the lung and the pleura costalis, the air so effused compresses the lung, and stops its breathing, and the pus and the air together set up suppurative inflammation of the whole uncovered surface of the pleura, causing, in this way, much pain and fever. Again, the perforation usually occurs on the left side of the chest, and, as the air is drawn into the sac of the pleura at each inspiration by the inspiratory muscles, which, from the difficulty of breathing that necessarily exists, act powerfully to expand the chest, that side of the chest may soon get dilated, as it did in Haden, and the heart pushed over to the right side. And this rapid compression of the left lung, and extensive suppurative inflammation of the pleura, and displacement of the heart, occur in persons who have more or less of tuberculous disease in the opposite lung. No wonder, then, that persons seldom long survive perforation of the lung so produced. In most cases, death occurs very speedily, and in no case, except that of Haden, which has fallen under my own observation, has life been protracted more than six weeks. Haden, as we have seen, though miserably poor, and always breathing the tainted air of a crowded room in a close and filthy court in the centre of London, lived very nearly four years after perforation took place, and during great part of this time contributed to his maintenance by his own labour. This fact, of itself, is very remarkable.

Another circumstance in the case, worthy of note, is the profuse hæmorrhage that took place from the kidneys, and from various mucous membranes, when he was in the hospital for the first time, soon after the perforation of the lung occurred.

How the disposition to hæmorrhage was brought on I cannot tell, but at first it seemed a terrible aggravation of the case, likely, of itself, to destroy life speedily. The hæmorrhage, however, soon abated, and ceased entirely in less than three weeks, and probably prolonged life instead of abridging it. Haden was himself convinced that the loss of blood relieved his breath, and in this conviction he was right. The difficulty of breathing that results from the suspended action of a portion of the lung is generally lessened by the loss of blood, until what has to pass through the lung is no more than the still active portion of lung can purify.

The immediate relief that follows bleeding in inflammation of the lung or of the pleura is mainly owing, not to the effect which bleeding has in controlling the inflammatory process, but to the mere loss of blood, which renders the still breathing portion of lung more equal to the work which it has to perform. The principle is often illustrated more clearly in cases of phthisis.

In the advanced stages of phthisis, when a large portion of the lungs is destroyed, there is sometimes but little distress in breathing, because the quantity of blood in the body is diminished nearly as much as the respiratory power. It is not impossible, therefore, strange as this opinion might seem at first, that the profuse hæmorrhage that occurred in Haden soon after the action of the left lung was stopped, may have served to prolong his life.

Another circumstance that was regarded with much interest by the different classes of students under whose notice Haden was successively brought, during the four years that he might be considered a patient of the hospital, was the great displacement of the heart, and the little effect this seemed to have on the circulation of the blood. The heart was distinctly seen and felt beating on the right side of the chest, with its apex just below the right mamma; yet no œdema occurred, to give evidence of impeded circulation, till a few months before his death; and from the beginning of our observation of him to the end, the sounds of the heart were distinct and clear, and there was no intermittence, or irregularity of any kind, in its beat.

When Haden was first brought into the hospital, a fortnight after the perforation occurred, the stethoscopic phenomena showed plainly that the left pleural sac was distended with air, but contained little liquid. Between two and three weeks later, the quantity of liquid had much increased, so as to cause the splashing within the chest that was heard by Haden himself, and by persons standing near him, when his body was suddenly shook. This splashing—a phenomenon that was noticed by Hippocrates—is precisely like that caused by shaking a cask only partly full of liquid, and can, of course, be heard only when there is both air and liquid in the cavity of the pleura. It was first noticed in Haden on the 11th of May, and was heard very distinctly from this time till the 29th of May. How much longer it continued audible I cannot tell, as no further notes of his case were taken for nearly three months. The air in the sac of the pleura was, however, gradually absorbed; and when he was again examined, in the month of August, and probably much before this, it was all replaced by liquid. From this time to his death the left pleural sac was distended by liquid only, and no stethoscopic phenomenon excited much attention till he was brought into the hospital in October last. He was then suffering from slight catarrh of the right lung, and the loud breath-sounds originating in that lung were heard so distinctly all over the left side, that some of those who examined him could hardly be persuaded that the left side of the chest was full of liquid, and no longer breathed. The circumstance excited the more interest, as it was then decided that the chest should be tapped. The sounds heard on the left side were, however, readily shown to have their origin in the right side, by the fact that the left side was motionless during the acts of breathing, and gave out everywhere a dull sound on percussion, as well as by the circumstance that the sounds heard over it were of the same character as those on the right side, and were louder the nearer to that side the stethoscope was placed.

There was another point on which the case was instructive. When inflammation of the pleura has existed, and has filled, or nearly filled, one side of the chest with its product, it makes a vast difference to the patient whether this product be a serous fluid, with coagulable lymph, or whether it be pus. When the liquid is serous it may gradually get absorbed, or much of it may get absorbed, and the patient recover with a contracted side; when the liquid is pus, it does not get absorbed, and does not diminish in quantity, unless it escape

through the wall of the chest or through the lung. In the case of Haden it was clear, from the first, that the liquid in the left side of the chest was pus, because the inflammation that produced it was evidently caused by a tuberculous cavity in the lung bursting into the sac of the pleura; and inflammation of the pleura, so produced, always leads to the formation of pus. But in many cases of pleurisy, with large effusion, it remains a long time doubtful what the nature of the effusion is. Now, the circumstances I am about to mention may help to guide your judgment. When the liquid is pus, the chest does not contract, unless the pus escape through the wall of the chest, or through the lung. On the contrary, as happened in Haden, the chest, by the secretion of fresh pus, may be even more dilated at the end of many months, or even after two or three years, than it was at first; and as pus does not coagulate, but always remains liquid, the friction-sound of pleurisy is not heard in such cases. If, therefore, in a case of pleurisy, with large effusion, the chest after a time begins to contract, or a friction-sound of pleurisy be heard, it may be inferred that the effusion consists of serous liquid, with coagulable lymph, and not of pus. If, on the other hand, no such contraction take place, and no friction-sound be heard, there is great reason to fear that the effusion is pus.

Another question that was often considered, during the long course of Haden's illness, was, whether it was expedient or not to tap the chest? While he was first in the hospital, the left side of the chest was distended with air; and it was evidently useless to draw this off, while the rent in the lung through which the air came was unrepaired. After some months the rent in the lung was closed, and the air in the pleural sac was absorbed, and a liquid, which was evidently pus, had taken its place. This state of things continued for three years; and during that time, as there was no great distress in breathing, it seemed to me inexpedient to tap the chest, as the operation of tapping would probably cause a long-continued drain from the chest, which would be supplied by the secretion of fresh matter within it, and which would thus exhaust what little strength our patient had left.

In the month of October last, the great distention of the left side of the chest, and the occurrence of catarrh in the right lung, caused such difficulty of breathing as to overcome this objection, and the chest was finally tapped. A large quantity of foetid pus was drawn off, and the breath was considerably relieved for a time; but, as I feared would happen, a profuse discharge of pus ensued, which continued nearly three months. This discharge, after the first week, did not much lessen the size of the chest, and was therefore chiefly supplied by the secretion of fresh matter, and caused great diminution of flesh and strength. It was, I think, well for our poor patient that the operation was deferred so long.

But by far the most interesting circumstance in the case is the effect which the perforation of the left lung, and the consequent stoppage of its function, had in arresting the progress of the tuberculous disease. Six months before the perforation of the lung happened, Haden had profuse hæmoptysis, which recurred twice in the next five weeks, and which was followed by habitual cough, and loss of flesh, and evening chills, and night sweats; and when he was first brought to the hospital, it was not only clear that the rupture of the left pleura was owing to the bursting of a tuberculous cavity, but that there was also tuberculous disease near the summit of the right lung. Yet, notwithstanding that he continued to dwell in the same unwholesome place, and suffered even greater privations than before, he lived nearly four years afterwards, and at his death the tuberculous disease of the lung was not more extensive than it was presumed to be when he first fell under our notice. It is difficult to resist the conviction that, in some way or other, the rupture of the left pleura, and the consequent compression of the left lung, stayed the progress of the tuberculous disease in the right. Considering this case by itself, there are several conditions to which the arrest of the tuberculous disease might be ascribed:—the change in the state of the blood, as evinced by the remarkable tendency to hæmorrhage that occurred soon after the rupture of the pleura took place; the impediment to the circulation through the chest caused by the displacement of the heart; and the habitual difficulty of breathing from the compression of the left lung.

I have before now called your attention to the doctrine maintained by Rokitansky, that organic diseases of the heart, malformations of the chest, permanent contraction of one side from pleurisy, and various other conditions which impede the aeration of blood in the lungs, tend to prevent the development of tuberculous disease. According to this doctrine,

which the case of Haden strongly supports, the displacement of the heart and the compression of the left lung may have conspired to produce the effect in question.

It seems not improbable that in this way, strange as it may at first seem, the perforation of the lung, which in most cases is so speedily fatal, may actually have prolonged the life of our patient. It is very unlikely that the tuberculous disease, advanced as it was when the perforation took place, would have become arrested without a marked change in his condition within or without. No change in his outward circumstances took place. He continued to follow his former employment in the same room, and lived, as before, in poverty and filth. The change, then, must have been within; and the only marked inward change is that which resulted from the perforation of the lung.

NOTES

FROM

A Course of Lectures

Delivered at St. Thomas's Hospital.

By GILBERT MACKMURDO, Esq., F.R.S.,

SURGEON TO THAT HOSPITAL,
AND TO THE ROYAL LONDON OPHTHALMIC HOSPITAL.

(Reported by his Son.)

LECTURE IV.

Conjunctivitis; Puro-Mucosa or Catarrhal, and Purulent.

GENTLEMEN,—This evening I shall commence with the description of the muco-purulent affections of the conjunctiva, which designation includes catarrhal ophthalmia and purulent ophthalmia, whether of the common kind, or arising from gonorrhœal matter having been communicated to the patient's eye; or, lastly, that form which is so destructive in the newborn infant. It has been remarked that this membrane, in various parts of the body, presents similar affections under similar circumstances; thus, we observe mucus or pus at one time secreted; in a second instance, aphthæ appear; in a third, or fourth, pustules, or herpetic eruptions;—from whatever cause the inflammation in the conjunctiva may have arisen, it always presents certain characters; at first, the increased secretion is puro-mucous or puriform, and then it gradually increases, and produces a really purulent discharge. The earliest symptoms are those of simple inflammation, which are very soon followed by the formation of the secretion just mentioned; and, if the disease is not soon checked, the cornea speedily becomes implicated, infiltration of pus, or ulceration and staphyloma follow, and the eye is then wholly or partially destroyed. The most simple form is that known by the designation of catarrhal ophthalmia, or ophthalmia atmospherica. The patient first complains of stiffness and heaviness of the lids, then of a sensation such as would be produced by the presence of dirt or sand under the upper lid. He suffers much pain of a dull kind in the evening, accompanied by an itching of his lids, headache, and pain over his brows, and especially in the frontal sinuses, and antrum. The slightest motion of the lids causes a recurrence of pain, from the inflamed surfaces rubbing against each other, and the sensation of dirt is again reproduced, by the enlarged vessels pressing against the under surface of the lids; indeed, you will scarcely be able to persuade your patient that there is no foreign body in his eye. Very soon you will observe a profuse discharge of scalding tears, which gushes from between the closed lids, at short intervals. The eye now appears covered with distended vessels, of a bright red colour, very different to the pinkish hue which is present under sclerotic inflammation; and these conjunctival vessels may be pushed from one point to another, with the finger, thus showing their very superficial position; there are seen patches of redness, and sometimes spots of ecchymosis present. The discharge in many cases soon presents a mucous character, with much lassitude and febrile excitement, particularly at night. The whole front of the eye is sometimes covered with the thickened secretion, and it drops on to the cheek. At first, the conjunctiva palpebræ, the semilunar fold and caruncle, become florid and thickened, and afterwards the conjunctiva oculi becomes affected, and presents a uniform and deep pinkish colour. The vessels can well be distinguished; the conjunctiva oculi soon becomes

raised by serum or fibrin, and these we term, accordingly, serous or fibrinous chemosis. Sometimes the lids themselves become much swollen, and are very red, or even livid. The mucous membrane of the nose, mouth, and fauces, suffer at the same time in various degrees, according to the age and strength of the patient. And there is generally a certain degree of fever, with headach and disordered stomach, sickness, &c. These symptoms, in some patients, precede an attack of catarrhal ophthalmia. Patients, in such cases, complain of an increased suffering at night, and light is not distressing to them, as it is in some other forms of ophthalmia. As the name informs you, the cause is generally atmospheric, and exposure to night air, or sudden chills, in a hundred different ways, will bring on an attack of this nature. We have many published accounts of epidemic attacks of this kind having invalidated whole regiments at a time; and in damp localities it seems completely endemic. At first, then, we may consider it as atmospherical; but it becomes contagious, and particularly so when the discharge is puriform. But even in the earliest stage, the clear hot tears will cause a sharp attack of this character, when they have accidentally been applied to the eye of an attendant. There has been much difference of opinion as to the treatment of this form of ophthalmia: I only allude to the local remedies, for all surgeons must agree, that strict attention should be paid to the state of the different secretions, and to any idiosyncrasy of the patient affected. You may observe one set of patients treated antiphlogistically, and with tepid fomentations, either of milk-and-water, or chamomile flowers, or poppies, alum being added in the proportion of one drachm to a pint of water, for an adult, when the discharge is purulent, and a much weaker solution for infants and children. And you may see another equal number treated with astringents, as sulphate of copper, or sulphate of zinc, or nitrate of silver, as a strong solution or strong ointment, and you will find that they will all get well, if they attend to the directions given them.

I have for many years diligently watched the results of these two modes of treatment; and in the milder cases I am quite satisfied with the first-mentioned plan of treatment, provided the discharge is not in any way puriform. Yet I am bound to admit that the patient will in many cases be sooner well, (though in some instances at the expense of much suffering,) if we adopt for him the nitrate of silver treatment. Two very high authorities and excellent surgeons, Mr. Guthrie and Dr. Mackenzie, use the nitrate of silver, (which was first recommended by Dr. Ridgway, and afterwards by Beer,) in much stronger proportions than I and my colleagues do at the London Ophthalmic Hospital. We are content with its efficiency, in the proportions of one or two grains to the ounce of distilled water; and we direct that a few drops should be applied, two or three times a day, into each eye; and we find that patients very seldom complain of any pain therefrom; whereas, when the solution is introduced of the strength of four, six, and even ten grains to the ounce of water, or of a similar strength as an ointment, the patients complain for some time afterwards, and they appear to suffer, in many instances, subsequently from an irritable condition of their eyes. I have also frequently used the following lotion, recommended by Dr. Mackenzie:—Bichloride of mercury, one grain; muriate of ammonia, six grains; water, eight ounces; wine of opium, two drachms. Mix. But I have found it very uncertain as to the degree of pain inflicted by its application, and therefore you should use it very cautiously: the effect has, however, been very frequently good. In all these cases it is desirable to apply a little ointment to the edges of the lids at night, and whether it should be of a stimulating or merely a cetaceous character must depend on the particular case. Spermaceti, zinc and lead ointments, are the milder forms; citrine ointment, or the red precipitate of mercury, are most excellent, as of a more stimulating character, and you can vary the strength as you like. I usually prescribe the citrine ointment thus: one part to eight or twelve of fresh lard; and of the red precipitate I order an ointment, varying in strength from six to twelve grains to an ounce of fresh lard. In some few cases you may find it desirable to bleed your patient, but very generally leeches will answer your purpose, and they are not always needed. In obstinate cases counter-irritation will expedite the cure. In some severe cases, free venesection, followed by an emetic and sudorific medicines, are desirable. You should keep the patient free from all draughts of cold air, and give him warm, diluent drinks, and let him abstain from all stimulating food or fermented liquors. Warm baths and Dover's powder at night will often be very useful adjuncts.

I shall hereafter mention some of the results of protracted