Thesis
on
Miliary or. Lobar Pneumonia
by
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The disease selected, as a subject for the following remarks, is one of great importance, both from the frequency of its occurrence in practice, and from its fataliy, if neglected, or improperly treated, and it therefore behoves every medical man about to enter upon his professional career, to be thoroughly acquainted and familiar with its nature, symptoms, and treatment: Especially those who are likely to spend their lives in any of the colder climates where it manifests more extensively. And it is now my object to give as clear and at the same time as brief a description of it, as I have been able to gather from the various standard authors of the day.
Pneumonia is now universally acknowledged to be inflammation of the proper tissue of the lungs. But there are numerous varieties of this disease, which are named from the different portions of the lung that are inflamed, and from the accompanying fever or disease with which it may be associated.

When the inflammation extends over the whole of one lobe, or even of one lung, it is called Simple or Lobar Pneumonia, or if it should include both lungs, it is called Double Pneumonia. But if the inflammation should confine itself to small portions or lobules of the lung, it receives the name of Lobular Pneumonia. Sometimes the air cells alone appear to be inflamed, and then it is called Vesicular Pneumonia, or the Intracellular tissue, and these intravesicular. It is named Typhoid Pneumonia, when it is accompanied by a low fever, or Typhoid state after system.
And when it is associated with jaundice or inflammation of the Liver, it receives the name of Bilious Pneumonia.

And lastly, it may either be acute or chronic, according to the length of its duration, and intensity.

As each of these forms demand a separate notice, I shall confine my remarks, in the present instance, exclusively to the consideration of the symptoms, course, and treatment, of that of Acute or Bilious Pneumonia.

This is the variety most commonly met with, and it usually precedes for some days, with more or less disarrangement of the various functions of the body, as despartition, loss of appetite, and generally slight febrile symptoms, which are followed by a shivering fits or chill, sometimes very severe and well marked; which pausing passed away, more or less fever shows itself, and the disease may now be considered as fully established, for at the same time, the breathing becomes difficult,
painful and quickened. The patient complains of pain more or less severe in his side and in the lower and back part of his chest and he is now also troubled with cough, which however in the generality of cases exists together with other catachol symptoms for a few days previous to the commencement of the disease and accompanies it (with but a very few exceptions) throughout the whole of its course. It is in some cases violent and painful and in others slight and attended with little or no pain, for the first few days it is usually dry or attended with the expectoration of thin watery mucus in small quantities, but as the disease advances a viscid, tenacious, semi-transparent matter is thrown up, which if not in the beginning, soon becomes stained (not streaked as in Bronchitis) with blood which gives rise to various colours, as yellow or green, brownish red or rust-colour, the latter however...
being the appearance it most generally presents. These spots are also very transparent, so much so indeed, that the vessel containing them may be turned bottom upwards, without being sulphur'd of its contents, and then present very much the appearance of jelly and may be considered as one of the most characteristic features, or general symptoms, of the disease, and are often cee themselves sufficient to indicate its presence. This expectoration is the result of the inflammation of the minute tubes and air vesicles of the lungs, the walls of which contain a dense network of capillaries, which pour into Sanguine or Sympathetic vessels mingled with mucus and extravasated blood, constitutes the peculiar characteristic symptom of Pneumonia. This secretion seldom becomes very copious, although it increases in quantity as the disease advances; but in certain cases symptoms be also present—there may be a copious discharge of frothy
Omens, mixed with the true Pneumonic expec
toration. Towards the close of
bad cases it sometimes assumes a
dark appearance, which has been
compared by Audiol to necritic
material dissolved in water, when this is the
case the Prognosis becomes very
unfavorable.

I mentioned paxie as an accompaniment,
but it, like the catarrhal symptoms
may precede for a few days the
Commencement of the Disease; it
is often very acute and severe, being
increased upon the patient taking
a full breath or coughing in by pressure
being made upon the ribs; cold is
generally referred either to the side
or back part of the chest. When it
is very sharp it is supposed to be
owing to inflammation of the Pleura
evolving the affected portion of the
lung. But instead of its being acute
and sharp, in a great number of cases
it is of a dull aching character, in the
patient complains merely of a sense of
Awareness or constriction, and in other cases indeed it is so slight—as to be almost imperceptible, unless called into play by the taking of a very long inspiration or by the action of the

Cussler y.

The Respiration is always quickened, and its number may be increased from that of the standard of Health to even as high as fifty or sixty in a minute, and this is usually accompanied with a feeling of great oppression and Dyspnoea, which is sometimes so urgent as to oblige the patient to assume an erect position, and renders it very difficult for him to speak; but this depends a great deal upon the extent of the Inflammation, and also differs much in different individuals. According to Dr. Watson Inflammation in the upper Lobe is said to be attended with more of it than in the lower. Should the Dyspnoea be very violent, attended with short and quick inspiration,
and the face presents a purple or livid tinge, there is every reason to be apprehensive of great danger.

With regard to the Fever, although slight in very many cases, being in some cases so slight as almost to escape notice, and in others again extremely violent and intense, yet it may be considered as an almost uniform accompaniment of at all events any thing like severe cases. It is frequently attended with flushed cheeks and pain in head, especially about the forehead from which the patient may even suffer as much, if not more, than from the pain in his chest.

It is often of a remittent character, the exacerbations recurring generally towards the evening of every day being accompanied by headache, pain, cough, dyspnea and often the expectoration becomes more bloody. The pulse is usually full and strong and not much increased in rapidity but in some cases it has been observed very frequent from the
commencement of the Disease (even as high as one hundred and forty, in an adult), and in this case it is likely to be smaller and less vigorous. The skin is usually hot and dry, and the tongue moist. And covered with a white, or yellowish white film. Delirium may occasionally occur and is a very unfavourable symptom.

I have now considered the general symptoms of this variety of Pneumonia, but have still to treat of the Physical signs, which are of very great importance as a means of Diagnosis. For many of the general symptoms, such as Cough, pain, fever, &c. are often absent, and even if present, are common to numerous other affections, and the Sputa itself, may be occasionally wanting in its characteristic properties. And thus the Practitioner is often obliged to rely almost exclusively upon Percussion and Auscultation as a means of ascertaining sure evidence.
of the existence of the disease, but even these cannot always be relied upon; as, for example, when the inflammation is deeply seated and surrounded by healthy structure. Before treating however of these signs and their importance, with reference to the disease now under consideration, more fully as during its course they often change their character it will more be convenient to divide into three stages viz. First, Second and Third.

In the first stage, or as it is sometimes called that of congestion, percussion affords little evidence of the condition of the lung, for although there is a slight diminution of the healthy resonance yet there is no dulness sufficiently decided as to serve as a ground for diagnosis. Auscultation on the other hand is very important and decisive, for upon the application of the stethoscope over the inflamed portion of lung, one
can have but little difficulty in the generality of cases, in at once discovering that a small moist or crepitant rale has taken the place of the healthy vesicular murmur, although the latter may be some times heard muffled feebly with the former, before it is quite lost. This crepitation is more distinctly audible the nearer the disease happens to be to the surface of the lung, but in cases of deep seated inflammation where in ordinary breathing it is not very perceptible, it may after be fully developed by the taking of a full inspiration on the part of the patient. This rale is characteristic of Pneumonia and its presence always indicates Pulmonary inflammation which may be detected when spreading by the respirator of the lung, or the vicinity of its walls becoming weakened, owing to the commencing state of congestion: and it is usually preceded by murmur aspiration, an effect—
probably to be ascribed to the narrowing of the minute tubes, before the vesicles become congested; and thus the air passing with more than usual rapidity through them gives rise to the aural natural loudness of the murmur. According to some authors, when a fine mucous, or crepitant rale, is heard in the lungs, without evidence of the existence of disease, or of the presence of mucus in the lungs itself, it is a sign that the apex of the lungs is affected. The general symptoms of this stage, i.e., deep seated dull pain in the lower part of the lung more frequently of the right lung. The dyspnea is very great, being sometimes so severe as to cause the patient to take from 30 to 50 respirations in a minute. The sputa are rust-colored and exceedingly glutinous. Fever and chills are also present in the generality of cases, but as before mentioned only very much in intensity.
2nd Stage. As soon as dullness on percussion is ascertained and Bronchoflemy and Bronchial respiration heard, the disease has advanced from the first to the second stage, the latter being fully established, as it advances however into this latter stage, the respiration can be heard gradually ceasing its place being supplanted by the Bronchial respiration, which is owing to the consolidation of the inflamed structure, enabling it to convey to the ear the tubular vibrations which in the ordinary or healthy condition of the lungs are arrested by its elastic and spongy texture. This consolidation is produced by the exudation of lymph and extravasation of blood into the Parenchymata of the air cells of the lung, which becomes solidified and constitutes what is called Red Hepatisation, of which, the Bronchial respiration is one of the most characteristic signs. Some authors state that the
Expiratory murmur becomes prolonged and of a somewhat blowing character, before the true Bronchial respiration is established.

Bronchophony is also another characteristic of the second stage, or of that of red hepatization. Last consists of a vocal resonance, which is not heard in the natural or healthy state of the lung, except over the largest Bronchi (chiefly under the right clavicle) and is produced by the pause caused at the Bronchial respiration by consolidation of the inflamed tissue.

3rd Stage. The transition from the second into this stage, is to be suspected from the general symptoms, for although grey hepatization, has now taken the place of red, as long as the pus remains diffused in the spongy tissue, the physical signs are the same as in the preceding stage, but sometimes a mucous film supervenes upon the Bronchial respiration.
The general symptoms of this stage are not at all well marked, that is, to say the symptoms by which it is to be distinguished from the second, but usually the difficulty and frequency of the respiration increase and the pain often quite vanishes. The expectoration diminishes in quantity or becomes purulent or assumes the appearance of a dark turbid liquid, which has been compared to pus or juice, or it may cease altogether from inability in the part of the patient to cough up the expectated matter. The pulse becomes very feeble and rapid, and the skin is covered with a cold clammy perspiration. The mind is seldom affected but usually remains clear to the last.

Should the disease yield to treatment in the congestive or quiet stage, so it sometimes begins to do on the second, third or fourth day, the pain disappears, the expectoration
becomes more copious, and more of the character of ordinary mucus, the frequency of the pulse and other febrile symptoms diminish, the tongue becomes clean, and convalescence may be established unless there is a pustule; but the disease may remain for two or three weeks before all the symptoms disappear. Cases seldom terminate fatally in this stage, and only when a large portion of the lung is involved at once, but in the greater majority, it advances into the second or stage of consolidation, in which it much more frequently takes a favourable turn; perhaps at the end of a week from the commencement, and in some or four days more convalescence is established. But occasionally the patient retains one or more of the symptoms, such as cough, dyspnoea, pain upon full inspiration, a frequent pulse, for a considerable time.
By some Authors it has been doubted whether recovery ever takes place after the disease has reached the Third or Stage of Suppuration. And others again assert that they have occasionally observed the recovery of those and protected cases, in which there was profuse purulent expectoration, night sweats, and that recovery frequently takes place when the inflammation terminates in abscess, cannot be doubted, and the reason obviously is, that abscess is only apt to occur when the extent of inflammation is moderate. Recovery to health from pneumonia is frequently marked by the occurrence of certain discharges, or of other phenomena, which are considered critical; such as cyanosis, copious perspiration, epistaxis, cutaneous eruptions.

Inflammation of the lungs is often complicated with other Pectoral diseases, and especially with Pulmonary
Bronchitis and Pneumonia: and it is very liable to be confused with these four diseases, with the exception of Pericarditis, and also with Pulmonary Edema and certain states of Mumps. It is in the cases of Bronchitis extending to the minute ramifications of the Bronchi that the greatest resemblance is presented to Pneumonia, but in the former affection the sensations are more those of soreness than acute pain, and are usually located in the anterior and upper part of the chest; the expectoration is thick and tinged with blood and has not the extremely viscous, tenacious and mucous character of the spuil of Pneumonia, and is much more copious. The dry and muco-purulent rales are heard instead of the expectorated rale of Pneumonia. There is no Bronchial aspiration or Bronchophony, no auscultation of considerable dulness on percussion. When the two diseases are combined
it is very difficult, if not impossible, to distinguish between these.

The principal characters or symptoms by which Pneumonia is to be distinguished from Plauney are: that in the latter, the pain is sharp, lancinating and severe; the expectoration is mucous and transparent, or suddenly streaked with blood; that the crepitant rale is wanting, but that a friction murmur and hoarseness are heard. But that in the former, the pain is moderate and dull; where the disease is uncomplicated, but as the Plauney which invests the affected portion of lung, generally participates in the inflammation, this symptom can not be reliable upon. The expectoration is viscid, mucinous, and rust-colored. The crepitant rale is heard, but the friction murmur and the hoarseness are wanting. The
Bronchial respiration may exist on both sides. It would be superfluous, were I to point out the distinction between pneumonia and the other pulmonary affections for which it is liable to be mistaken, but if the principle characters of this disease be borne in mind, especially the rusty coloured sputum, the rapid pulse, and the seat of the inflammation, there can be but little danger of falling into error; particularly if the voice proves, as valuable a diagnostic agent, as it promises to be, for it appears from the investigations that have been carried on under the superintendence of Dr. Bennett in the wards of the Edinburgh Royal Infirmary, that the chloride of sodium, one of the constituents of healthy urine, was absent from it during the onward progress of pneumonia. In the April number of the Monthly journal of
Medical science. Dr. Bennett gives the
results of some of his observations, which
I shall take the liberty of enumerating.
He states that upon testing the urine of
a man, named John McDonald, at 25;
or the fourth day of the disease; the
Chlorides were found absent and
remained so during the fifth and
sixth days, whilst the disease was
progressing. On the seventh day a
slight Kaze was observed in the urine,
indicating that the salt was returning
to that fluid, and the man expressed
himself as being much better. On
the eighth day the urine coming to some
accident had been thrown away
before the visit. On the ninth day
however the Chlorides were abundant
in that fluid; and from this time
the man made a rapid recovery,
ever having been bled, and was
discharged quite well on the six-
teenth day. The next case he mentions
is a very remarkable one: It is that
of a man named, Donaldson, at 26,
Lefting under Typhus fever, in whom the disease ran its usual course, to the tenth day, when chlorides were demonstrated in it. On the eleventh day however, pulmonary symptoms came on, and the chlorides were entirely absent from the urine. Dr. Bellard then made an examination of the chest, and detected all the signs of Pneumonia in the lower half of the right lung. On the fourteenth day the chlorides reappeared, the Pneumonic signs diminished, and the fever ceased with a critical sweat. The third case was that of a man, called David Murray, st. 43, who entered with Pneumonia of the lower two thirds of the right lung. No consistent account could be obtained from him, as to when the disease commenced, and it was impossible, therefore, to determine whether the coarse crepitation which was audible over the replaced lung was the advancing or the retreating crepitation.
But the chlorides were absent from the urine, which indicated that the disease was advancing. The following day complete consolidation had occurred, with dry tubercular breathing and absence of coughing, and a minute quantity of the chlorides was found in the urine. The patient, however, instead of getting better showed no improvement, and the next day the chlorides had again disappeared, indicating extirpation of the pneumonia. At the evening of this day he was seized with acute meningitis, of which he died. On dissection, in addition to universal cerebral meningitis, the whole of the right lung presented the usual character of grey hepatisation.

Mr. Seymour, one of the clinical clerks, testifies the urine of upwards of fifty of the patients in the wards, exhibiting a great variety of disease. He found the chlorides absent in
one case of Phthisis, with intercurrent Pneumonia, but in no other. They were also absent in one case of Peritonitis, and in all the cases of Small

... should further investigation not discover the absence of these salts from the urine in other Pulmonary affections besides Pneumonia, their absence in the latter disease will be symptomatic of the very highest diagnostic value; but at all events it will be a sign of quite importance, as pointing out the onward progress of the disease.

Prognosis. In cases of primary Pneumonia of the variety of which I am treating, occurring in persons of a good constitution, and without complication of any kind, there is always reason to hope for a favourable issue under proper treatment. In debilitated persons and in those above fifty years of age it is much more fatal, and in very advanced age it is extremely fatal.
The danger is much increased when the whole of one lung is affected and in double pneumonia it is always very great. In patients of a Scrophulous diathesis, the prognosis is unfavourable for it is often attended with a copious tuberculous deposition, under which circumstances it is universally fatal. As a general rule the prognosis may be said to depend chiefly upon the violence of the fever and the amount of the dyspnoea; and it is peculiarly unfavourable when complicated with disease of the left side of the heart.

Causes - Viscissitudes of the weather are among the most frequent causes of pneumonia. The sudden exposure to cold and wet when the body is warm is very apt to induce an attack of it, especially when the person is suffering under catarrhal symptoms. The excessive use of the voice, acid, or poisonous inhalations, excesses in drinking, violent exertions of
any kind, which produce the accumulation of blood in the lungs, and powerful emotions may be considered as the occasional causes. Cold may be ranked among the most efficient of the predisposing causes, and hence the disease prevails most in cold climates, and is especially apt to occur towards the end of winter, or the beginning of spring, at which periods the temperature of the atmosphere undergoes sudden, and excessive, changes. Some persons and families have a peculiar tendency to the disease, without any known cause, which is increased by its once having occurred, and thus they may suffer from repeated attacks of it. The tendency is also greatly increased by disease of the left side of the heart. It is more frequent in men than in women, and the period of life at which it is most apt to occur, appears to be from twenty to thirty.
five years. It is not at all uncommon
most in the first five or first year
of life, but is then likely to be
connected with some other disease
to which probably it owes its origin.

Treatment—No disease bears bleeding
better than well developed Pneumonia.

And we persons with vigorous
constitutions, it is the most-
effective remedy, for it is salutary,
not only in reference to its direct-
effect of checking the inflammatory,
but also from the great-
benefit it confers upon the lungs
by diminishing their amount
of labour, and thus relieving
the dyspnoea, and the patient's
pulvis. In deciding upon the
quantity of blood to be taken, we
must be guided by the constitution
of the patient, the state of the
pulse and the stage of the disease.
In a vigorous robust patient,
with a strong pulse, in the
commencement of the disease,
before its fatal termination has been fully established, from fifteen to
thirty tinctures may be taken at
the first bleeding, for there is
some chance, if being able to arrest
the progress of the disease in the
earlier stages, by a full bleeding,
and other decided antiphlogistic
measures: after this the bowels
should be freely opened by an active
cathartic: such as, calomel and
senna, or the infusion of senna,
with the sulphate of magnesia.
After the bowels have been evacuated,
if the convulsion, should be given in
slightly nauseating doses, repeated
every two or three hours, during
the violence of the disease.
In judging of the repetition of the
bleeding, we must be guided
almost entirely by the general
symptoms, the state of the pulse
and the urgency of the dyspnea,
cough, and pains; neither the
sweat, nor the physical signs
If any much assistance (Alison) should the symptoms not have abated, we may bleed again at an interval of from twelve to twenty-four hours, and this may be repeated again and again. Should the pulse not have been reduced, nor the inflammatory symptoms decidedly checked, it generally happened that the pulse rises under the lancet—which indicates that the remedy has been rightly employed and therefore in doubtful cases, should the pulse become still weaker, the bleeding must be stopped; but should it cease the operation ought to be continued until the symptoms are relieved, or the patient unable to bear any further loss. After two or three days when the force of the circulation has been sufficiently subdued by the lancet, as will be 

a grain of opium, a grain of Persevera, and two
or three grains of Colonel may be given at night. The advantages of this combination are that it procures rest for the patient, abates the excessive effects of the cough, directs action to the liver and lungs, the foundation for a medicinal impression on the system, if this should subsequently be deemed advisable. Sometimes one pill is found insufficient to produce the desired soporific effect; and then two should be given, and if necessary, one repeated an interval of an hour or two afterwards. If the pain and inflammation should continue after general bleeding has been carried as far as prudence suggests, blood should be taken by cup or leeches from the chest to an extent corresponding with the strength of the patient, varying probably from four to six ounces; from which sometimes the patient derives great benefit.
Should the disease prove obstinate and the inflammation not subside under this treatment, some Medical Men deere it advisable to resort to the mercurial injection, but others on the contrary disapprove of this system. Dr. Alison states that no reliance can be placed upon the specific effect of Mercury in preventing or resolving the Hepatization of lungs.

In the declining stages of the disease expectant medicines such as the Tropics of Squill and terega, combined with one of the salts of Morphine, are often very useful, and should the strength fail, it will be advisable to give stimulants in small quantities, particularly wine, and the preparations of Aconite. The wine may be given in the form of wine wort, and the Carbonate of Aconite may be administered in doses of two grise, or ten grains at intervals of two or three hours.
Should Hectic fever settle gently, benefit may be derived from the use of the Sulphate of Quinine. This appears to be no doubt that the timely employment of stimulants in moderate quantities with a nutritious diet has, in the latter stages of this disease, when the patient's strength has failed, often been the means of saving life.

In cases of intemperate individuals, it does not do to remove entirely and at once their accustomd stimulus, it should be diminished but not quite cut off. By Selenium tremens are very likely to set in, and the patient to buckle under the requisite amount of bleeding. The proper plan is to allow the stimulus, and at the same time to bleed, by which method the nervous system is supported, and the inflammation embattled.
If the patient should not be seen until the disease has reached an advanced stage, bleeding must be employed with most caution, for after four or five days there is but little hope of cutting short the inflammation by direct depletion, and the strength of the patient should be supported as much as possible for the ensuing struggle. Still however moderate quantities of blood may sometimes be taken with advantage, both generally and locally; but it would be perhaps more prudent to have recourse alone to the cups or leeches in the majority of such cases. Indistensible bleeding cannot always be employed even in the commencement of the disease, as in cases of persons expeled by previous ill health, or by extreme old age, and in very young children. In these cases should
depletion be employed, the local
would probably be the safest and
most preferable mode of pursuing
the operation.

Another method of treatment was once
highly recommended by some Authors,
viz. that of the employment of
Lactae Eelectric in large doses. This
plan was at modern times first
introduced by Paracæ of Italy, and
subsequently employed by Barere.

and has since been much in vogue
in Europe: Some have relied upon
it to the perfect exclusion of blood-
letting, but more generally it advocates
bleed moderately, once or even more
frequently in the early stage, and thus
quie the Auntidental.

Paresi gave it in enormous quantities,
for example from one to three doses
in twenty-four hours, or divided doses.
Sauviat, gave a grain every two hours,
suspecting it in mild cases, after
the sixth dose for seven or eight
hours; but in those of a threatening
Character, continuing steadily on, until amendment was evident. And in the worst cases, increasing the dose to a grain and a half, two grains, and even two grains, and a half—This plan is evidently not without its dangers, for the depression produced by it may be too great, so gastrointestinal irritation may be induced, or the patient may be exhausted by the excesses in vomiting and purging. It is altogether customary to cases in which there is already gastrointestinal irritation, and a patient who is put upon its use should seldom be long from under the oversight of the practitioner, as serious evils may arise during the intervals of his visits, should they be of long duration...

Some authors mention cases in which a hemorrhagic tendency seemed to be produced, by the Climatological place of treatment, which ended fatally after all signs of the Pulmonary
Inflammation had disappeared. So that all things taken into consideration, this appears to me a very unsafe and unsatisfactory mode of treatment. But that M. Tschel Beičić in small doses in the earlier stages of the disease, is of great assistance to the lancet there is no doubt.

In conclusion it might perhaps be well to add, that great attention should be paid to diet and that the patient be not starved to death as has probably sometimes been the case; and it should be especially borne in mind, that in cases of debility a nutritious one should be restored to in the latter stages, even before convalescence has taken place.

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