AN INaugural DissertATion
ON

Pneumonia

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Pneumonia

Of all the diseases of the lungs to which man is subject, Pneumonia is the most distressing and alarming. The disease of the substance of the lungs are few. Of these Pneumonia holds an important station. Pneumonia is an inflammation of the parenchyma or substance of the lungs, of an acute character, and it is also a local inflammation or disease.

Pathological lesion. The inflamed lung undergoes various alterations. These are divided into three stages: the first is the stage of engorgement, congestion of various colors, and it still remains resipient; it is more solid and friable, and when cut exudes purplish blood. It is heavier than in health, but floats in water. This stage varies from two to four days, when it passes into the second stage, which is called the putrid stage, from its venus-
blamed to the liver. In this stage the diseased portion remains no air. It is of a deep red, or reddish-brown color, and when cut has a granular appearance; is friable and sinks in water.

In most cases that recover the lung never passes to this stage, but gradually retrogrades until recovery takes place. In cases that terminate fatally, the lung passes into the third stage called purulent infiltration. Purulent softening or gray hepatisation, which is infiltration with pus. The lung resembles a piece of sponge immersed in pus. It is lighter than in the stage of red hepatisation. Pneumonia is often complicated with Pleuritis forming the Pleuro-
Pneumonia of Pathologists. The quantity of fibrous and serous that is effused in this complicated Pleuritis is very small, though enough to cause adhesions. In about one fifth of the cases of
Pneumonia that terminate fatally, there are large fibrous concretions in the ventricles of the heart, especially in the right ventricle. This fibrosis is separated during life and causes death instead of Pneumonia. This disease is now common in the right side in adults, but there is not much difference in children. The lower lobes are more liable to the disease than the upper.

Natural symptoms. In the majority of cases it makes its attack without any preliminary symptoms. About one case in four is of this kind. The attack is almost always attended with a chill, which is usually of short duration, lasting from fifteen minutes to three hours. This chill is almost constantly followed by pain. This pain is nearly always attendant on Pneumonia, though cases have occurred in which there was no pain, as when Pneumonia came on during Typhoid
fervor. But in simple Pneumonia the pain is usually felt in twelve hours after the chill, though it may not occur in three or four days. This pain is mostly seated about the right nipple and from this center to the base of the lung. It is as acute as in Pleuritis, and is increased by inspiratory coughing, pressure or. The pain continues from four to twelve days. The most symptom is in the respiration. This is more or less accelerated, so it is faster than in health; though a case may occur in which there is no acceleration, as in a case exhibited at the Marine Hospital. There is dyspnea caused by congestion. There is generally cough, which comes on with the pain, though it may not be very urgent; it is painful and suppressed and is generally accompanied with expectoration, which is characteristic of Pneumonia. This is generally if not always of a brick-dust or maize color, and
is very tough and viscid. This red color arises from admixture of blood escaped from the conjunctiva of the eye cells in the first stage. It is commoner moderate in quantity and potency. In Pneumonia this characteristic expectoration may be absent, but it is not likely to be so. It is inclined to pass to an opalescent, glistening color, when the disease passes from the first to the second or third stage. There is also the hone-colored sputum, which appears in the latter stages and usually indicates a fatal termination. There is some subile excitement. The pulse varies from one hundred to one hundred and twenty per minute, i.e. the pulse is accelerated. But when the pulse rises over one hundred per minute, great danger is indicated. Its character varies from the hard to the soft pulse; but it is usually hard and jerking in the first stage, though it may become soft. The skin is hot and dry usually, but may
because soft and flabby. There is usually an
exacerbation of the fever in the after part of the
day. There is a deep suffusion of the face, of a
somewhat livid color; it may be on one or both
cheeks, or the face generally may become hollow
and pale and covered with cold, clammy
sweat. There is almost always pain in the head,
back and limbs, which generally subsides
in three or four days. The mind is generally
clear, no delirium except in the latter stage,
or in old and intemperate patients. The
muscular strength is only partially lost, but
in Typhoid-Pneumonia it is very much im-
faired. There is usually a whitish colored
coat on the tongue, though there is little
gastric disorder or irritability. As long as the
fibril excitements lasts, the appetite is much
impaired, though it may become voracious.
towards the close of fatal cases. Usually there is some thirst; the bowels are somewhat disturbed; the blood is generally buffled and suffused; capillaries fine. The urine, at the beginning of the first stage, is scanty and high colored. In cases that terminate favorably, this secretion becomes abundant, and is of a cloudy appearance and precipitates a white deposit. This precipitate is never seen in cases that terminate fatally. It always indicates a termination of the inflammation in resolution. In cases that terminate fatally, it remains clear and bi-pipet until death.

The diagnosis may be easily made out by the rational symptoms. But there are varieties in which the rational symptom are wanting. In such cases we must have recourse to the physical signs. The first
is a diminution of the resonant sound corresponding to the inflamed part. This is observed in the first stage. In the second stage there is features on percussion. When it is posteriorly the percussion is not so valuable as it comes on gradually. In the first stage the first sign revealed by auscultation is diminished respiratory respiration, and instead of it there is the crepitant ronchus indicating engorgement. This is heard during inspiration. But when the disease passes into the second stage, both crepitant ronchus and vesicular respiration disappear. So they cannot be heard in the state of hepatisation. But then the tubal or bronchial respiration is heard during inspiration and expiration. The bronchial respiration is usually preceded by the vesicle respiration, and along with this tubal respiration we have bronchophony.
by an increased vocal resonance. The first stage of Pneumonia usually continues from three to four days, though it may run into the second sooner. There are no characteristic physical signs in the third stage very different from those of the second, though sometimes a coarse expectoration is very perceptible. Should the cases terminate favorably, resolution begins to take place and the crepitant ronchus returns, so that health returns through the same physical signs that it departed. This usually takes place in two or twelve days.

Causes. The first is age. It occurs at all periods of life, even before birth. Children seem to be particularly liable to it—lobular and secondary Pneumonia, between the years of five and ten. In adults it occurs between the age of twenty and thirty years. It occurs
more frequently in males than females. This is owing to their frequent exposure to cold, inclement weather. Persons who are exposed to sudden transitions of temperature, as going from heat to cold rooms or the open air, or remain long in water, as persons loading or unloading boats in water, it is more prevalent in cold temperate latitudes than in warmer climates. The occurrence of the disease once renders one more liable to it a second time and in the same lung. The most exciting cause is exposure to cold. Continual exposure is more apt to bring it on than otherwise. So it is end a year in the winter, start in the summer. In Europe it is more fatal in the months of April and March. It is also caused external injuries, and wounds penetrating the thorax. Duration. The first stage continues from three to five days, the second from six to seven.
Thus till recovery, ten or twelve days, though some of the physical signs may remain when the patient is clear of all the general symptoms. Diagnosis. There is only one disease with which we are liable to confound Pneumonia and Pleurisy. In Pneumonia there is a difference between the physical signs and also the ephorisation of the lung. The course of this disease is always progressive until it has passed through its entire course. It may terminate in either resolution, the formation of pus, or chronic inflammation, but most commonly in resolution. Prognosis. In this many things must be taken into consideration. The first is age. From the fourth to the fifth year it is usually unfavorable and most of the cases die of secondary or tubercular Pneumonia. From the age of six to fifteen a majority of patients recover. It is rather more fatal with females.
than with males. This disease may occur during pregnancy, and then the prognosis is always unfavorable, for it terminates fatally by producing abortion, and under those circumstances, eleven out of twelve will die. It is more grave in delicate persons. The habitual use of alcoholic liquors aggravates the disease, so that prognosis is unfavorable. It is also more unfavorable in double, than single. Pneumonia. There is more danger when the disease attacks the superior, than the inferior lobes.

When the temperature gets as high as forty or forty-five, the prognosis is unfavorable; and so also when the pulse rises to a hundred and forty or fifty. Sometimes there is great tendency to suffocate, especially when the patient assumes the erect posture. The prognosis is more unfavorable in the typhoid than in the simple variety. One of the most favorable
omen is a copious discharge of urine and profuse
Treatment. This must be actively antiseptic. The two most important remedial
agents are blood-letting and antimony, and the
third is mercury. If called during the first
stage, the first remedy without exception is
general bleeding. The object of this is, first, to
subdue the inflammation, and 2nd to lessen
the amount of blood circulating through the
inflamed lungs, and hence bleed until the
pulse is softened: if this is not accomplished
at any bleeding, repeat. This, however, should
not be carried too far, especially where the
disease assumes a typhoid character. When
general blood-letting is contra-indicated, then
resort to local bleeding. Antimony. This is the
second great remedy. Its effects upon the pulse
and general symptoms, are more constant and uniform
in order to procure the desired effect of antimony it must be given until the pulse is softened, blood-lust being first procured. The antimony must be given every hour or two until the desired effect is produced. Bleeding must not be carried beyond the soft pulse, and when this point is gained, it must be kept by the administration of antimony in half-grain doses every hour, so that twelve grains may be given in twenty-four hours. The first dose almost always produces vomiting and purging, but the antimony should be continued in the same dose as above directed when the patient will, some tolerate it, or "tolerance of antimony" as it is called will be set up in the system, and vomiting and purging will be entirely arrested. Pregnancy does
not contra-indicate the administration of antimony. It may excite or produce slight inflammation about the face, but not sufficient to contra-indicate its administration. It should be given as it appears to exercise a specific influence upon the inflamed lung.

When the disease is of a very grave character a calomel may be given in doses of four, six, eight or twelve grains, during the twenty-four hours, combined with a small quantity of opium, to prevent its too frequent passage by the bowels; and to obtain the specific effects of the mercury as soon as possible. If the disease does not yield to the treatment above mentioned, I should apply a blister to the chest, and this should
be very large, say from two to twelve inches square; and if it should not relieve the patient the first time, it might be re-applied with propriety. In the latter stages of the disease, expectorants are often useful as, syrup of squills and veronicae, mixed with antimony and one of the salts of morphia, given in such doses as the stomach will bear without nausea.

It will be found best to omit the antimony on consequence of its depressing properties, if the patient has been addicted to habits of intemperance, and allow a small quantity of brandy, say a table spoonful, every five or seven hours. By observing the above treatment success may be effected.