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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 diseases 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 lesions. 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 crepitant; It is more solid and friable, and when cut emits frothy 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 Hepatization, from its resem-

blance to the liver. In this stage the diseased portion contains no air. It is of a dark 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 hepatization, which is infiltration with pus. The lung resembles a piece of sponge immersed in pus. It is lighter than in the stage of red hepatization. Pneumonia is often complicated with Pleuritis forming the Pleuro-Pneumonia of Pathologists. The quantity of fibrine and serum 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 fibrinous concretions in the ventricles of the heart, especially in the right ventricle. This fibrine is separated during life and causes death instead of Pneumonia. This disease is more common in the right side in adults, but there is not much difference in children. The lower lobes are more liable to this disease than the upper.

Rational Symptoms. In the majority of cases it makes its attack without any premonitory 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 occured in which there was no pain, as when Pneumonia comes on during Typhoid

fever. 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 across to the base of the lung. It is as acute as in Pleuritis, and is increased by inspiration coughing, pressure &c. The pain continues four four to twelve days. The next 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 accelerating, as in a case exhibited at the Marine Hospital. There is dyspnoea 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 reddish color, and

is very tough and viscid. This red color arises from admixture of blood effused from the congested air-cells in the first stage. It is commonly moderate in quantity and frothy. In Pneumonia this characteristic expectoration may be absent, but it is not likely to be so. It is inclined to pass to an opaque, yellowish color, when the disease passes from the first to the second or third stage. There is also the prune colored sputa, which appears in the latter stages and usually indicates fatality. There is some febrile 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 is usually hard and jerking in the first stage, though it may become soft. The skin is hot and dry usually, but may

become soft and pliant. There is usually an exacerbation of the fever in the after part of the day. There is a dusky suffusion of the face, of a somewhat livid color; it may be on one or both cheeks, or the face generally may become sallow 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 stages, or in old and intemperate patients. The muscular strength is only partially lost; but in Typhoid-Pneumonia it is very much impaired. There is usually a whitish colored coat on the tongue, though there is little gastric disorder or irritability. As long as the febrile excitement 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 buffed and cupped; coagula firm. 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 whitish 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 limpid, until death.

The diagnosis may be easily made out by the rational symptoms. But there are varieties in which the rational symptoms are wanting. In such case 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 flatness 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 murmur, 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 murmur disappears. So they cannot be heard in the state of hepatization. But there the tubal or bronchial respiration is heard during inspiration and expiration. The bronchial respiration is usually preceded by the rude respiration, and along with this tubal respiration we have bronchophony formed

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 mucous ronchus 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 ten 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 two. 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 heated 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. Continued exposure is more apt to bring it on than otherwise. So it is more common in the winter, than 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;-

then 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 viz Pleurisy. In Pneumonia there is a difference between the physical signs and also the expectoration &c. &c. The march 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 lobular 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 sixteen will die. It is more grave in delicate persons. The habitual use of alcoholic liquors agrivates 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 respiration gets as high as forty or forty-four the prognosis is unfavorable; and so also when the pulse rises to a hundred and forty or fifty. Sometimes there is great tendency to syncope 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

omens is a copious discharge of urine and perspiration. Treatment. This must be actively antiphlogistic. 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 2ly to lessen the amount of blood circulating through the inflamed lung; and hence bleed until the pulse is softened:- if this is not accomplished at one bleeding, repeat. This, however, should not be carried too far, especially when 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

than bleeding. In order to procure the desired effect of antimony it must be given until the pulse is softened, bloodletting being first premised. 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 the twenty-four hours. The first dose almost always produces vomiting and purging, but the antimony should be continued in the same doses as above directed when the patient will soon tolerate it, or "tolerance of antimony" as it is called will be set up in the system, and vomiting & purging will be entirely arrested. Pregnancy does

not contra-indicate the administration of antimony. It may excite or produce slight inflammation about the fauces but not sufficient to contra-indicate its administration. It should be given as it appears to exercise a specific influence upon the inflamed lungs.

When the disease is of a very grave character 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 free 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 six 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 seneka combined 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 in 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 spoonfull, every five or seven hours. By observing the above treatment cures may be effected.