

AND

INAUGURAL DISSERTATION,

ON

Pneumonitis

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To the Professors.

in the

Medical Department.

of the

University of Nashville.

As a mark of esteem for their

thorough and efficient course of

instruction, this Thesis is

respectfully dedicated

by

The Author.

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Pneumonia or Pulmonitis,

Inflammation of the parenchyma or substance of the lung, is known by the common name of pneumonia. There are several varieties of this disease. The simplest form, "when any lobe of the lungs may be diseased," is generally designated pneumonia. In children and in persons having traumatic fever, a variety occurs in which the inflammation is more circumscribed or isolated, than in the simple form, and is therefore denominated lobular pneumonia. When both lungs are attacked at the same time, it is called double pneumonia. When the pleura is involved to some extent, it is then pleuro-pneumonia. When a typhoid condition exists, it is called typhoid

pneumonia, and when accompanied by a biliary derangement, it is styled bilious pneumonia.

Causes.

A predisposition seems to be established by an occurrence of the disease, and it is said, that when once attacked, a person is rendered more liable to have the same disease again, from slight exciting causes. Another predisposing cause, is the presence of tubercles in the lungs. Among the exciting causes, may be mentioned, any depressing influence upon the system, exposure to cold or moist atmosphere, the inhalation of irritant substances, excessive speaking in the open air, The bite of poisonous animals or reptiles.

Wounds of the lungs, and blows on the chest, It frequently occurs during the existence of bronchitis, phthisis, whooping cough, Small pox, Scarlatina, measles, and sometimes during a traumatic fever following a serious injury or surgical operation, Men are often attacked by the disease, than women, probably from the fact, that they are more exposed to the exciting causes.

Anatomical characters,

The effects of inflammation of the lungs, are divided into three stages, that are more or less distinct and called, first, Engorgement or congestion, second, Hepatization and third, purulent infiltration or suppuration,

In the stage of engorgement or congestion,

The lung is of a deep red or dark color, it is heavier and not so elastic as the healthy lung. Crepitates less under pressure, and on cutting into its substance, a bloody, frothy serum exudes, which is sometimes darker than at others. The substance of the lung is of various shades, from a red to a dark, brown red, it is more compact, dense and softer than in health, and the air cells are partially obstructed by exudation, The air mingling with the serum, forms little globules. As the disease progresses into the second stage, The lung becomes more dense and solid, The liquid and air diminishes. The lung is also softer, and may be readily torn up with the finger, on cutting into its substance, it presents an appearance, resembling.

the liver, and is then said to be hepatized, the fluid, when pressed out, is less in quantity, and not so frothy as in the Conges-
-tive stage; owing to the fact, that the air vesicals are filled with a fibrinous exudation, that excludes the air,

In the third stage or that of suppuration. The lung becomes lighter in color, and more solid, and when cut, presents a grayish or yellowish appearance, and exudes a yellowish fluid, it is very soft, and the least pressure will form a cavity, which, becoming immediately filled with pus, is often mistaken for an abscess, a termination that seldom occurs in pneumonia, As the pus is secreted, the solid portion of the lung is greatly diminished,

The right lung is often attacked than

the left. And it was once supposed that the upper lobe was more subject to inflammation than the middle or lower lobes, but I believe, it is now conceded that any lobe is equally liable with the others, Inflammation of the upper lobe is more fatal than that of the others,

In lobular pneumonia, the same stages occur as in the simple or lobar form, and the same appearances, except that the diseased portions are more circumscribed and are surrounded by healthy tissue.

In typhoid pneumonia, the blood seems not to yield that plastic exudation that fills up the air cells in the later stages in the other forms of the disease, and if the inflammation continues, imperfect suppuration or gangrene takes place,

the lung is fully gorged with blood and quite soft like the spleen, and is termed Splenization,
Symptoms,

Symptoms of general uneasiness frequently precede those of a more decided character, when, probably a fever is ushered in by a chill or only slight chilliness, sometimes the chill or fever is the first warning to the patient, The fever may continue a day or so. before any symptoms of disease of the lungs manifest themselves, and again, symptoms characteristic of pneumonia, may precede the fever, As an oppression about the chest, dyspnoea, pain, more or less acute, in the region of the inflammation, cough, and pain over the eyes, the ~~fever~~
The pain in the chest "which is most apt to be complained of more than any thing

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else, is sometimes entirely wanting, though, comparatively seldom. Then again, it may be very severe, especially should the pleura be implicated, to any extent, it is always increased upon a full inspiration and causes the patient to dread inflating his lungs fully, but on the contrary, he will catch his breath by short and quick jerks as it were. If the dyspnoea should be great. The patient lies with his head and shoulders elevated and every avenue to his lungs distended for the purpose of preventing an apparent suffocation, and his appearance will be rather wild and uneasy, when the dyspnoea is violent, and the breathing quick. The patient is in danger. When the upper lobe is diseased, these symptoms are greater.

in proportion, than when the lower lobes are
 inflamed. The cough is most generally
 present during the disease, and is
 sometimes frequent and painful,
 though not always. It is generally dry
 in the commencement, and usually in
 a day or so, is accompanied by a viscid
 mucous expectoration, more or less stained
 with blood, that gives it a rusty color,
 and is said to be characteristic of the
 disease. As the inflammation advances,
 the sputa becomes darker and more
 tenacious. Often, so much so, that when
 put into a vessel it cannot be sucked
 out, but ~~rather~~ adheres to the bottom of the
 vessel in a solid mass. It sometimes
 becomes purulent in advanced and bad
 cases, again it may be thinner and of

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the color of plum juice.

The fever varies from a slight flush of excitement to the highest febrile action. The skin is generally dry and parched when there is much fever. The fever may intermit regularly in some cases, as the miasmatic fevers, it may be ~~asthenic~~ asthenic in form or typhoid, and sometimes remittent or bilious. The patient is very apt to complain of his head, delirium occasionally occurs and is very unfavorable. The pulse may be full, strong and moderately quick, or small, compressible and very frequent. The thirst is generally very urgent, and the appetite in many cases entirely wanting. The patient most generally lies on his back, inclined, perhaps a little to one side or the other.

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The most important and certain signs in this disease, are those elicited by percussion and auscultation. By percussion, we find that the healthy resonance is slightly diminished in the first stage, but this is not much relied on. Auscultation gives more reliable evidence, which, in the first stage, is a crepitation, almost, "and, in many instances," entirely obscuring the vesicular murmur, of a healthy lung. This crepitation is readily heard by placing the ear against the chest and over the diseased portion, or by means of the Stethoscope, which would be required when we auscultated the chest of a female. The crepitation is heard only during inspiration, and to render it sufficiently

Audible, request the patient to fully inflate the lungs. To render this examination perfect, the patient should be placed in a sitting posture, with the head and shoulders thrown back, and every part of the chest examined, in front, under the arms and behind, being careful, however, not to expose the patient too much, and it would be prudent to regulate the temperature of the apartment, so that there would be no danger of chilling your patient, In conducting this examination, "and it is very important," it would be better to get on your knees so that the head might be as erect as possible, for if you bend your head down too much, blood will accumulate in all of the organs and.

so confuse the hearing as to prevent you from obtaining a correct idea of the condition of the lungs.

The crepitation is caused by the bursting of numberless little globules of air contained in the exudated fluid in the air cells, it is the characteristic sign of pneumonia, and points out the first stage of the disease, a very important point, when we come to the treatment, As the inflammation passes into the second stage, this crepitation gradually ceases and bronchial respiration is established.

Perhaps we may not hear it, especially if there be healthy lung intervening between the ear and bronchi, it will be drowned by the respiratory murmur.

and sometimes no sound will be heard, the bronchi being choked or filled with mucous or exudated matter at some point, preventing the entrance of the air. The bronchial respiration is evidence of hepatization. If, during bronchial respiration, the patient speak or cough, the sound is conveyed to the ear with great distinctness, and seems to come from the chest itself, this is called bronchophony and may be regarded as a very important sign. The evidences of percussion in this stage, are more striking than in the first, as there will be greater dullness and sometimes complete flatness immediately over the affected part, which will gradually diminish to the healthy resonance

as we approach and go beyond the circumference of the diseased region,

In the third stage, there is no characteristic sign produced by percussion or auscultation, more than what is mentioned in the second degree,

If the patient should be restored to health. These signs will pass through the same changes, in the reverse order, The pain in the chest will give way, The fever subside, and perspiration will stand out upon the skin, The breathing will be free and the cough and expectoration cease,

Though, sometimes, "and I think in those cases that have been fully bled," the cough will remain for a considerable length of time, with a

tightness perhaps across the chest.

These symptoms and signs of pneumonia are somewhat modified as the disease occurs in different persons and under different circumstances, Thus in lobular pneumonia, the inflammation occurring in circumscribed patches with healthy tissue intervening, perhaps the signs given us by percussion and auscultation will not be so distinct or conclusive, And also in bilious pneumonia, which complication may be induced, when the lower right lobe is affected, the liver may participate, and then the pneumonia sometimes occurs during the existence of or simultaneously with an intermittent or remittent fever. The signs of auscultation and percussion are materially the same, with the addition

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of those peculiar to a biliary derangement
as head ache, Yellowishness of the skin
and conjunctivae, also a yellow coating
on the tongue and a yellowish red urine.

In typhoid pneumonia, many of the
signs and symptoms are the same as
in the other varieties. added to a low form
of fever, evidencing extreme debility and
depression. The mind is obtuse, and a
low, muttering delirium may supervene.
The pulse is usually small, compressible
and frequent. There is dullness on
percussion and the respiratory murmur
is replaced by a mucous rattle or
sound. The expectorated matter is darker,
less tenacious, more abundant, and
is sometimes pure blood. A diarrhoea,
is also very frequently present.

Diagnosis.

Pneumonia may be confounded with several diseases of the Chest, The diagnostic signs between it and bronchitis are.

The sputa, which, in pneumonia, after the first day or so, becomes rusty colored, "and this is considered by some as pathognomonic of pneumonia." does not have this appearance in bronchitis, but is colorless or slightly changed. The next sign is the Crepitant rale which occurs in pneumonia and not in bronchitis. These two symptoms or signs taken in connection with other signs of pneumonia are sufficient to distinguish the two diseases.

It is much more difficult, sometimes to distinguish it from

pleurisy. There is in pleuritic affections
 great dullness on percussion, though
 it is located in the most pendant
 portion, while in pneumonia, it will be
 found immediately over the crepitant
 rale, but if the pleuritic effusion
 should be so great as to fill up the
 cavity of the pleura, and so compress
 the lungs as to hush all respiratory
 sounds, both vesicular and bronchial,
 Then there would be a rounding of
 the chest, the intercostal spaces
 would be filled out, and dullness on
 percussion, with a slight undulating
 motion of the fluid coming against
 the hand. If it is in the right pleura
 the liver will be pushed down and felt
 below the ribs, and the mediastinum

pushed to the left, so that the whole sternum will sound dull. If the left pleura be affected and the effusion so great as in the last, the heart will be pushed to the right and its pulsations, distinctly felt under and to the right of the sternum. In hepatization of the lung there is no displacements except perhaps a slight fullness on the affected side.

Prognosis.

The prognosis in a simple, uncomplicated ^{in an individual otherwise healthy.} pneumonia, is always favorable, but when the disease occurs in old, debilitated and enfeebled persons and also in quite young children, and also when it is complicated with other diseases, or when the whole of one lung is affected, or the upper lobes or both lungs, in all these cases the prognosis is

not favorable, rather the reverse. In typhoid cases and when depletion has been carried too far. when colligative discharges take place, In persons predisposed to or affected with tuberculous deposits, The prognosis is unfavorable, In any case where the dyspnoea becomes urgent, and the patient cannot lie down without a dreadful feeling of impending suffocation, The expectoration becoming thin and dark, The pulse frequent and weak, with probably, the addition of a diarrhoea, The prognosis is exceedingly unfavorable, These are all bad symptoms,

Treatment.

In no disease, perhaps, are the opinions of physicians, as widely different as in

the treatment of this disease, and first, there are many who believe in and practice copious and repeated depletion by venesection, in the first stage, they say "and the books corroborate it," that as the lungs are overcharged with blood, while the heart is throwing it in faster and faster, and that the respiratory organs "the most delicate of the body" is about to be overwhelmed by a high degree of inflammation, that no remedy is so potent, and beneficial in its effects in this state of things, as bleeding, and when the plethora, a full and strong pulse indicate it, bleed copiously from two large orifices, "one in each arm," so as to produce a rapid and decided impression, and bleed till all

pain and oppression vanish, unless the condition of the pulse otherwise indicate, and if these symptoms return, bleed again, and repeat the remedy until the patient is out of danger. An inflammation has commenced in an organ that above all other diseases, admits the practice of free depletion, and to prevent the second stage, to break up the inflammation in its incipiency, you must use the lancet freely and boldly. Then again, they will tell you that if the second stage has formed, before you see the case, and depletion has not been resorted to, why a moderate bleeding will help along wonderfully, and will certainly do no harm. In my practice, I occasionally met with an elderly and intelligent physician, who,

having acquired a considerable reputation and particularly in his treatment of pneumonia," always bled, let the circumstances, be what they may, he lost many cases "and all physicians are bound to lose some," but his patients invariably died with disease of the heart, one instance he related to me, It was a negress, on his own plantation, about 18 years of age, stout, full habited and generally very healthy, she was attacked very severely with pneumonia, and I took, "says he," one hundred ounces of blood from her in twenty four hours, and still she died, but died with disease of the heart. He could always cure the pneumonia but could not prevent the disease of the heart in about three fourths of his cases. Perhaps,

many of his cases of heart disease were mere assimilations, for we learn that in an anamniated condition "and I should place all his patients under that head," sonorous sounds will be heard in the veins and heart. Thus in the heart we will have the "bruit de souffle," without any special disease, and thus perhaps he may be led into a fatal error.

We find on bleeding a patient for pneumonia, that the blood coagulates readily, and on the top settles the buffy coat, this is concave or cupped in shape. The fibrin is also increased in this disease, it rises from three "its normal quantity" to, even as high as ten parts ⁱⁿ one thousand, in some cases, perhaps though, it is rare for it to get this high. The plastic power

of the blood must be very great under these circumstances, and the lungs become glued into a solid mass in a very short time. On the other hand, those who oppose the lancet, say that in northern latitudes, where there is more tone in the system, the people are more robust, full habitued, and much better able to bear the loss of blood, than we southerners. That in the south, generally, there is a want of tone, and of blood, a condition of body that will not admit of depletion. They also say, that to break and stop an inflammation like pneumonia, by the use of the lancet, requires such a loss of blood, that people in the south generally cannot rally under. Consequently they die from the loss of this vital fluid, or

Or some other malady sugrafted by this drain, perhaps, disease of the heart, I have noticed, that those physicians, who relied almost exclusively upon the lancet, were infinitely more unsuccessful than those who never used it in any case. Perhaps, though, a medium course would be better. Although the majority of pneumonia patients, in a southern climate would not admit of depletion, yet perhaps a case might occur occasionally that would require it, and therefore it is best not to be on either extreme, as our prejudices might, perhaps, in one instance, cause the death of a patient.

Local depletion by means of cups over the affected part, is, I believe, almost universally practiced, and as the amount

of blood, taken in this way, is small, there can be little or no harmⁱⁿ it, while it frequently gives relief to the parts immediately concerned, at least for a while.

The opposers of venesection, generally in the south, use the *Veratrum viride* or tincture of American hellebore, as prepared and recommended by Dr. Norwood of South Carolina, given according to his directions, that is, eight drops to an adult patient every three hours, increasing every one by one drop, till the symptoms subside, or disappear, has always in my hands, proven altogether sufficient to control the action of the heart, reduce the pulse to its natural standard, and, I believe, will, in connection with other remedies, relieve most cases of pneumonia,

The dose should be varied in different cases, I presume, according to the pulse, as they vary the amount of blood taken from the arm. The Veratrum ^{viride}, is said, also, to act both as an expectorant and diaphoretic, both of which indications are to be fulfilled in pneumonia.

In my practice I generally gave with the Veratrum viride, from 5 to 10 grs Calomel in broken doses followed in proper time by Oil, or I gave instead of Calomel, a dose of Cook's pills, "especially to negroes," from the biliary derangement that most generally accompanied all the cases I met with in Red River bottom. In the majority of cases I found Cook's pills answer better than Calomel alone, as they acted upon the liver and brought away the accumulation of fecal

matter, but in the adjacent hills, when bilious pneumonia seldom occurred, mercury was scarcely ever used in any form, and purgative medicines generally were to be used with caution, there was too frequently, a tendency to diarrhoea.

Santonin has been used very extensively in pneumonia, and is still used to some extent, It has been proposed as a substitute for depletion, and given for this purpose in various quantities, Commencing with a minute dose and gradually increasing as the stomach could bear the remedy without vomiting, the object being to produce a tolerance of the medicine, and then continued in larger doses till all symptoms of the disease were gone, This remedy is very highly

praised by those who used it; never having made use of it in any case, I can say nothing from experience. It is said though, that it sometimes produces a dangerous depression that carries off the patient more rapidly, than if the remedy had not been used at all, and this is said to be particularly by the case in children. We have never known the *Veratrum Viride* to produce such results, and have never heard of a case, where it was used in the proper quantities and at the proper intervals. The tincture of American Hellebore, is however, a powerful and dangerous medicine, and must be used with caution.

In connection with the *Veratrum Viride*, I have been in the habit of prescribing *Spicacantha* in a large quantity of Sage or other kind of Tea, which is to be taken.

pretty freely. Mercury is much relied on
 by some physicians, following venesection with
 doses varying from 2 to 25 grs. "My friend in
 Arkansas, was in the habit, after bleeding
 very freely, of strewing in from 20 to 25 grs.
 of Calomel." It is frequently combined with
 opium or Dover's powder, especially in the
 later stages, and when hepaticization has
 taken, ~~or~~ or is about to take, place, probably.
 "and all the books say so" it would be
 the best course to carry mercury to its
 specific effect on the System, that is, till
 the teeth were slightly on edge or some other
 evidence was present to indicate this condition.
 Its advantages are probably in the fact, that
 it increases the action of the absorbents and
 thus the exudated fibrinous matter may be
 removed from the lungs. The opium or

Dover's powder exercises a beneficial influence, by relieving pain and inducing sleep, two very important indications. I think the patient should be made as comfortable as possible, taking care, however, not to push these remedies too far. Blisters are frequently used, and are considered very efficacious. In the first stages, after the febrile condition is materially subdued, I frequently apply a mustard plaster, not for the purpose of producing a blister, but merely as a revulsion, in later stages this remedy is carried farther. In pneumonia of an intermittent type, Quinine is used to break up the periodicity of the fever, and Dr. Wood says the stimulant effect of the quinia is overbalanced by the advantage it produces by breaking up the fever. In pneumonia, when the fever is of a

low form as in the typhoid variety, and frequently in the later stages of the other forms of the disease, especially when the patient is much reduced and very feeble, from Copious vomiting or other causes, our only resource is in Tonics and stimulants, and sometimes they have to be used freely and in large quantities to keep our patient out of the grave. Those mostly used are, Whisky, Brandy, the sweet toddy is perhaps very good, Ammonia, Quinine, &c.

Appendix.

Since arriving at head quarters, I have been informed by many intelligent and successful Physicians, that the *Veratrum Viride*, won't do, it causes fatal depression, reduces the pulse down to 30 beats in the minute, if you will

give it in large enough doses and sufficiently
 long and that it will remain there, or
 decline until it finally stops, and more
 than that. They say that it is not good
 policy to pitch into new remedies so incau-
 -tiously &c, &c. I will just add that this
 remedy was in use in Arkansas when
 I commenced the practice of Medicine, and
 seeing the beneficial results of it in Pneumo-
 -nia. I, very naturally, used it also, and
 I will repeat, without boasting, that in
 every case, in which I gave it, the happiest
 results were evident, and they recovered from
 the disease. In no case, have I witnessed
 the fatal depression, mentioned by its opposers.
 Still I am willing to admit, that there are
 cases in which its ^{administration} ~~effects~~ might prove deleterious
 either from an idiosyncrasy or improperly

administered. With any of these active
remedies, I think we cannot be too
cautious, as to the subjects, the time
of administration or dose,