

AN  
INAUGURAL DISSERTATION,

ON  
*Pneumonia*

SUBMITTED TO THE

PRESIDENT, BOARD OF TRUSTEES, AND MEDICAL FACULTY

OF THE

University of Nashville,

FOR THE DEGREE OF

DOCTOR OF MEDICINE.

BY

*David P. Steele*

OF

*Lauderdale County Tenn*

18

CHARLES W. SMITH,

BOOKSELLER AND STATIONER,

NASHVILLE, TENN.

1  
Pneumonia or inflammation of the lung, is most frequently seen as it affects only one lung, though it may be developed in both. In either case it may involve the entire tissue, or be, as is frequently noticed, limited to a portion of any of any of the lobe.

When both lungs are affected the disease is termed double pneumonia, when one is involved, it is called simply pneumonia, and when only one lobe is affected, the complaint is then designated as lobula pneumonia.

The air cells or minute structure of lung is sometimes alone affected, though this is rarely the case; when however it does occur, the disease is

designated as vesicular pneumonia.

When this malady assumes a typhoid character, it is then spoken of as typhoid pneumonia. This disease is not unfrequently associated with others, among which we not unfrequently see that of bronchitis: pulmonary oedema: pleurisy and certain stages of phthisis.

### Stages

Pneumonia has by authors been divided into three different stages. The first stage is known as that of congestion. In this stage the lung is gorged with a redish frothy serum and presents a deep red

appearance; the air cells contain  
more liquid than air and the lung  
is consequently of a greater specific  
gravity than in its natural state;  
crepitates less under pressure; retains  
the impression of the finger and  
in this stage does not sink in  
water. If this disease continues to  
advance, its characters change, the  
color of the lung now becomes of a  
grayish red, it no longer crepitates  
under pressure, is impervious to air  
and is consequently heavier than in  
the first stage. Being hepatized or  
rendered like liver, it now no longer  
swims on water the fluids contained  
within its cavity are less frothy  
and diminished in quantity,

and when it is cut, the section resembles the liver and hence the term hepatization which is given to the second stage.

In the third stage which is called (Laennec) gray hepatization and by Andral gray softening, the lung continues as dense and impervious to air as in either of the preceding stages and presents both externally and within, a yellowish or gray color, the softening of the areolar tissue continues to progress and the structure of the lung is more easily broken than in either of the preceding stages.

This diffused suppuration

8

Sometimes leads to the formation of abscess, though this is not generally the case.

Acute inflammation of the lung sometimes terminates in gangrene; when this happens, the color changes to a dirty olive or greenish brown; the lung is softer than in either of the preceding stages and the odor is almost unendurable to those about the room, even the patients themselves suffering from the disagreeable smell.

It has been observed that pneumonia affects the right more frequently than the left lung; also that it attacks children oftener than men,

and men oftener than women.

## Symptoms

An attack of pneumonia generally commences with a chill followed by an increase in the frequency of the pulse; by heat of skin and in short by inflammatory fever: there is usually more or less difficulty of breathing and cough with pain in the chest; the latter being usually below one or the other nipple according to the side affected.

The pain is not restricted to this particular spot, but is observed sometimes in the side and back

7

It is said except when the pleura is affected, there is little pain felt, but a sense of burning or oppression is noticed within the chest.

The pain of pneumonia is often observed to commence with the disease and subside before it, and very frequently this occurs after depletion.

Patients bear percussion badly in the commencement of pneumonia, or pressure of any kind about the chest, and sometimes not even the pressure of the bed clothes. The pain is also increased by a full inspiration.



8

In an attack of pneumonia the respiration is always hurried, sometimes amounting to forty, fifty or more in a minute, the natural number being eighteen or twenty; there is always more or less difficulty of breathing according to the violence of the disease; cough is very apt to be present during the course of the disease, generally commencing with it and being at first dry, but after the lapse of a few days it is accompanied by a peculiar rusty coloured sputa, of such tenacity that it will adhere to a vessel when inverted.

This peculiar sputa is one of the best characteristic signs

of the disease and by it, when all others fail, the physician is enabled to diagnosticate the complaint.

As the disease advances the sputa increases but seldom attains a considerable amount, unless, in the case of young children who may have the lung engorged to such an extent as to prove fatal.

The decubitus of a patient with pneumonia is generally on the back, or, on the side in which the pleura is not affected. It is thought by some that patients lie best on the side affected but this is most

10  
likely to be a mistake, since  
they cannot bear the least pressure  
not even percussion.

Fever is ~~an~~ almost an universal  
accompaniment of pneumonia,  
especially if the symptoms be severe.  
It generally occurs in a remittent  
form once a day and in the evenings,  
though not unfrequently there is  
no intermission the fever continuing  
from day to day.

The skin is usually hot and  
dry and there is loss of appetite,  
the urine is high colored and  
diminished in quantity.

In some instances delirium is  
a symptom in this disease

and when it occurs should be regarded as denoting an undue arteriaization of the blood that the lung has ceased to perform the duty assigned them, and it is consequently not a favorable symptom.

Percussion and auscultation are the principal means by which a physician is enabled to diagnose the disease or its duration and extent.

Percussion is of little service in the first stage but by auscultation a crepitant rale there may be heard and the natural vesicular murmur is wanting or if heard at all, is heard mingled with the

crepitant rale.

After the advancement of the disease into the second stage, auscultation ceases to be of much service, the lung being impervious to air; there is however heard bronchial respiration indicating consolidation of the part inflamed.

Bronchophony is frequently if not universally observed in the hepatized lung; it being said that the voice may be heard through the lung with almost the same distinctness as when it issues from the mouth.

There is in this stage a perceptible

dulness of sound on percussion, and  
sometimes even flatness.

In the third stage the sound  
elicited on percussion is the same  
as in the second stage and that  
heard by auscultation is also  
the same.

It has been observed that  
pneumonia occurring in debilitated  
persons is generally less severe  
and when thus occurring it is also  
seldom attended with much  
severe pain or expectoration.

In children the diagnosis of  
pneumonia is more obscure and  
as those under the age of six  
are most liable to the disease

many of the symptoms by which a case may be recognised, are frequently wanting.

In children pneumonia is very often associated with or follows other diseases such as whooping cough, or measles.

Bilious pneumonia is frequently an accompaniment of hepatic disease or derangement, especially in the south or in miasmatic districts.

In those cases it is most frequently associated with intermittent and remittent fevers.

The symptoms by which a case of bilious pneumonia is known are tenderness on pressure in the

right hypochondrium, pain in the right shoulder, vomiting and a yellowish hue of the eyes.

This disease prevails most during the winter months and attacks those who have been most exposed to the vicissitudes of the weather.

## Prognosis

When pneumonia occurs in an uncomplicated form and attacks only a lobe of one lung there is a reasonable hope for a successful termination if it be properly treated.



If it occurs complicated with or after intermittent or remittent fever it seldom proves fatal but usually gets well with the fever.

### Etiology

The causes of pneumonia are very varied, the most frequent being however, exposure to a cold and variable climate.

The next most frequent cause is exposure of the lung to irritating or poisonous substances.

The continued over exertion of the voice, is another very frequent cause, or over exertion of the body.

and it is believed by some that the too free use of vinous liquors may give origin to the disease.

Persons are however sometimes attack with pneumonia without being able to assign any cause

### Treatment

As regards the treatment of pneumonia, it must be varied according to the strength of the patient.

As a general rule blood should be drawn at an early period, especially if the patient has

a good constitution and is robust.

The extent to which it should be taken, is, as a general rule, from sixteen to twenty ounces, but this should be decided mainly by the strength of the patient and violence of the disease.

By bleeding the function of the lung is diminished and it is left more at rest, a point which is essential to the cure of an inflamed organ.

The general rule by which the bleeding should be regulated is, to place the patient

in an upright position and bleed through a large orifice to approaching syncope; or until the symptoms or some of them have abated and the pulse becomes soft.

If in twelve or twenty four hours they should return the operation may be again performed; care being taken that it is not carried too far.

After bleeding has been duly performed it is recommended that the bowels be freely moved with an

active cathartics and the  
 one that has been found  
 most serviceable, is, Calomel in  
 combination with jalap, senna  
 or epsom salts.

After the bowels have been  
 thus acted on tartar-emetic  
 given in small doses frequently,  
 say one twelfth of one fourth of  
 a grain every hour or two will  
 prove of great service.

After the lapse of three or  
 four days these remedies  
 may be changed and opium,  
 ipecacuanha and calomel given  
 in combination, in the dose  
 of three grains of Calomel  
 and one grain of opium and one

of ipecacuanha at night.

By this combination it is expected that the patient will sleep well during the night that the difficulty of breathing will be alleviated and that an action on the skin promoted.

If the symptoms continue and it be not safe to draw blood by the arm, it is recommended to take it by cups or leeches applied to the chest, so as to draw four or six ounces.

These remedies will generally stop the progress of the disease

If however they do not, then a mercurial plan is recommended which may be best obtained by giving calomel in combination with some other article to prevent it from running off by the bowels.

The formula before recommended, given not only at night but also every three or four hours during the day, is the one that may be most relied on.

After the general excitement has been partly reduced by these means, blisters are recommended to be applied to the chest over the region of the inflamed

organ and of a size sufficient  
 larg to cover the region, say six  
 by eight inches or even larger; but  
 if the blister be applied before  
 the inflammation is partly reduced  
 there is a chance of increasing it.

Expectorants have been found  
 serviceable in the declining Stage  
 of pneumonia and those which  
 have been found most efficient  
 are the Syrup of Squir's and  
 Seneca in combination with a  
 small quantity of tartar-emetic;  
 and one of the Salts of Morphia  
 given in such doses as not to  
 nauseate the Stomach. Sometimes  
 owing to the depressing



influence of tartar-emetie it is better to omit it.

If the disease be so far advanced

that the powers of the system fail or about to fail, then a stimulant is required and the carbonate of ammonia has been found to

be an excellent one given in the dose of from two and a half to five grains every one or two hours.

Wine whey may be also used with advantage.

It sometimes happens that hectic fever sets in during the course of the disease and if so recourse must be had to sulphate of Quinine and a generous diet.

If symptoms of gangrene  
supervene, it is recommended  
that the Chloride of lime,  
opium, quinia and the muriatic  
acids be employed the  
Nitro-muriatic acid being  
thought to be the best.

The treatment  
of infantile or lobular  
pneumonia is the same as  
that recommended in the  
other varieties. It should  
be however practiced  
with great caution as children  
do not bear the depressing  
influences of venisection  
and tartar emetic as well  
as adults; Calomel is mostly

to be depended upon  
in the treatment of infantile  
pneumonia, given as in the  
formula for the treatment  
of the other varieties.

Not unfrequently debility  
is a prominent symptom  
when prompt attention will  
be required; Stimulants  
and a good diet being  
found highly serviceable.

The treatment of bilious  
pneumonia is a little  
different from that of  
common pneumonia, such  
patients not bearing the  
same amount of bleeding,

but this remedy duly moderated is found to be beneficial even here.

At the commencement of this form of the disease from twelve to fifteen ounces of blood may not be too much.

The mode of ascertaining the extent to which this remedy should be carried is, by placing the patient in an upright position and with the finger on the pulse stop the flow as soon as the pulse begins to falter.

If the case be of such a character that general blood letting cannot safely be practised then recourse must be had to cups and leeches.

The bowels should be evacuated by giving Calomel followed by sulphate of magnesia and this remedy is even recommended, throughout the course of the disease if the bowels be not irritable unless evidences of debility present. If at any time remission be decided then sulphate of quinia given in the dose of one or two grains every hour or two, has been found beneficial.

The plan recommended is at first to evacuate the contents of the stomach by an emetic of ipecacuanha, followed by Calomel in combination with rhubarb; after which the patient should have half a grain of opium and ipecacuanha and two grains of Calomel, to be given at intervals of three or four hours until the gums become tender.

On the appearance of debility Stimulants are to be used commencing with the milder class at first.

The diet should be good and it is even recommended to be stimulating if the disease be not far advanced.