On

Pneumonia

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A very creditable thesis, showing thought, reading, & good sense.
Under the term "Pneumonia," the ancients comprehended all the acute diseases of the chest unaccompanied by any marked pain of the side. This application is now limited to the single case of inflammation of the pulmonary substance.

This disease is one of the most common, if not severe, and in cold and temperate climate— is productive of more deaths than any other acute disease.

It is a disease whose nature, progress, and extent can generally be traced with great accuracy by means of auscultation and percussion. All the symptoms that give the most certain information regarding the nature, tendency, and treatment required, are the effects of changes from the normal character of the tissues of the lung, and are to be recognised by accurate examination by the ear. It is therefore necessary, that these changes produced in the pulmonary tissue by inflammation should be well understood. It also the most important anatomy of the part affected.
There are three well-marked stages in the condition of the lung during inflammation of its substance, first "enlargement." The inflamed part is porous with blood or bloody serum, it is of a dark red color on its external surface, and on being pressed does not eruptitate so much as sound lung, in fact, there seems to be more liquid than air present in the vessels—nevertheless it almost always float or being placed in water, although the specific gravity is greater than that of sound lung, it is also inelastic, and dries somewhat on exposure. When cut, the unenlarged portion is soft, and red, frothy serum runs from it. The mucous membrane of the small bronchial ramifications is of a deep red colour. Its firmness of texture is diminished, being more like the cohesion of the fibrous texture of the spleen. Hence the term "splenization" of the lung has been given to this stage, as has "Hepatization" to the next. In examining dead bodies there will very frequently be found an enlargement such as has been described; this occurs in the
The most dependent part of the lungs at the period of death, it is generally a more mechanical loosening of the blood. Of course, however, there may have been inflammation of the lungs at that point, but these two kinds of engorgement are scarcely to be distinguished one from the other. It is therefore important, in some cases, that the posture of the patient at death should be known. So if the engorgement be not in the dependent part of the lung, it is surely inflammatory—the ante-mortem symptoms leading to a proper conclusion.

Should the inflammation continue, the lung undergoes a further change, and exhibits the following characters. It is still red, but coagulates no longer under pressure and sinks in water, nor air being present. On being cut, its surface is sometimes uniformly red, sometimes of a mottled appearance caused by the black matter in the lung being intermingled with the white fibrous stroma of the organ—now unnaturally apparent. When the incised surface is exposed to light in a proper direction, the pulmonary substance has entirely lost its cellular appearance and presents a granular aspect as if composed of small red.
red grains, round or ovoid, very equal in size. This appearance is rendered more obvious when the portion of the lung is torn, and seems to be the distinguishing character of inflammation of the lungs by which it may be distinguished from tubercle. It exists only in this case and in pulmonary apoplexy. These are evidently the air cells converted into solid grains by the thickening of their parieties, and obliteration of their cavities by a concrete fluid.

The spongy nature of the lung in its normal state has been lost. Blood has been effused more or less rapidly generally most as in persons of previously feeble health. The lung is solid, "hepatized." A small quantity of red fluid still runs from the cut surface, but much less than in the former state of engorgement, and it is not foamy. By scraping the cut surface a portion of this red fluid being collected, there may be perceived in it traces of yellow matter, the first indication of commencing suppuration. Although the hepatized lung is denser than before, it is still less cohesive, and much more easily broken down. This is the result of increased softening of the fibrous texture.
As no air can be contained in the part of the lung affected in this stage of inflammation, it follows, that if the entire organ be involved, it cannot contract when the cavity of the thorax is opened, and will consequently appear to be enlarged. By congestion and effusion it is swelled in the same manner as other inflamed parts are swelled - when it has pressed against the sparsities of the thorax, it is frequently impeded by the ribs. (Fannon denies this, as also that the side affected is ever enlarged)

In this condition of the lung, the texture is so friable that it can easily be reduced by pressure to a jelly-like mass. In consequence of this, Andral rejects the descriptive term "Nepatisation" as that would seem to indicate increased strength of texture and firmness - and proposes "red softening" as a term conveying a more correct idea of the true state of the organ in this stage.

It is remarkable that these phenomena which have been described as restricted in the whole or greater part of a lung sometimes occur limited to certain of the pulmonary lobules. This accordingly is named "Lobar Pneumonia."

The third stage presents another change,
What was formerly red, now becomes yellowish, or gray, mottled with red or black intermixed. In children and young persons of a whitish yellow colour. The part is as dense, solid and imperious to air as in the former stage. The granular body previously mentioned, instead of being red, or grey or whitish, the texture of the organ being even more friable than before. In fact, it is full of semiform matter, as may be seen by cutting into the lump and propping out the fluid. The grey matter showing itself by spots on the surface. When pretty strong poison is used it is reduced to a dirty yellowish pulp, and on the finger being thrust into the parenchyma, a collection of semiform matter forms in the fist, much resembling a recent abscess. This state is the "prey softening" of Androl. The "prey liquefication" and "granular infiltration" of other authors.

The suppuration is of the diffuse form. Indeed, circumscribed abscess of the lung is of very rare occurrence as a consequence of Common Pneumonia.

This is accounted for in this way: that as the exclusion, or admission of atmospheric air has a remarkable influence on inflammation
in determining the adhesive or suppurative action on external surface - so the same principle holds good in the lung. First there is an effusion of blood and serum, then of lymph, but the air seeping into the surrounding trachea tissue, penetrating for a time even the inflamed portion itself - causes the suppurative to supersede the adhesive result, and so no circumscription is formed by the lymph, as is the case in circular tissue which is not accessible by the air.

The puriform infiltration of the third stage of Pneumonia is attended with no fester.

Inflammation of the lung sometimes, but rarely, results in Gangrene this is about as rare as the formation of Abscès - and occurs as a consequence of acute inflammation. Somewhat more commonly it happens as an independent and primitive affection. Sometimes it is diffuse and destroys a large extent of the lung, at other times it is more circumscribed. The part attacked becomes of an olive green, or bluish black color, moist and wet. Sometimes of the consistence of the engorged part of the lung, more frequently softer and even diffused. Its horrible
odor, conveyed by the breath during life, is a characteristic of the disease.

It is a strange feature in pneumonia that it will be found to affect the right lung much more frequently than the left. It will also be found occupying the lower lobes as Physic does the apost, the former spreading upwards, the latter downwards. Inflammation of the Bronchial tubes is constantly present with inflammation of the substance of the lung - the serous membrane is congested in both large and small bronchi. Consequently Bronchitis is never absent in a case of Pneumonia. Phlegm also is a very frequent accompaniment in the disease.

Diagnosis — By the application of the ear either with or without the intervention of the Stethoscope to the parietes of the chest, a pretty accurate knowledge of the state of the pneumonia may be obtained in some cases, viz. when it exists without complication or when it has attained a certain degree of intensity.

In the first stage, there is heard a fine expiratory sound caused by the passage of air in fine, small bubbles through a fluid. Every Author has his simile.
for this sound, and many of these indeed tolerably correct imitation. But this, as well as all other diagnostic signs, must be heard to be understood.

This minute crepitation gives evidence of commencing effusion, and sometimes prevails over the ordinary vesicular murmur. In the case of the disease progressing, the crepitation gradually obscures the vesicular sound altogether. The crepitation in its turn becomes fainter, and the production of the second stage of the disease is accomplished.

Various opinions have been held as to the cause of the crepitation. The prevalent opinion has been given above. The opinion of Dr. Williams is that the distended bloodvessels and interstitial serous effusion press on the minute bronchial ramifications, and obstruct without wholly preventing the escape of air through them. That these small tubes are lined with a viscid secretion such as is expectorated. That the sides of the tubes stick together in consequence of the presence of this viscid matter, and that it is the separation of these adhering sides by small portions of air passing in and out that gives rise to the characteristic sound.

At all events, it is agreed that these sounds are
Correct object to. Merchants may not fear the whole levy contribution, I think.

must be
are produced in the minutest bronchial ramifications
and ultimate vessels of the lung, by the presence
of a film through which air passes.

Then the expectoration ceases, the disease having
advanced to its second stage — a piping, or wheezing
sound is heard in the lobe affected, to which the
name of 'Bronchial Respiration' has been given.
This sound is best heard at the termination of a
cough. To examine the bronchial respiration
is not audible or is well heard by the nearer-vascular
arrangement of the bronchi, although the larger bronchi are still patent. Air
which, by piping in and out (according to the Common
theory), produces the sound. But if the vessels
are occluded, and the lung in whole or part con-
solidated, how can air prey into the bronchial tubes
of this part? I think that the sound is
produced either by the hepatozygous part of the
lung conveying the natural bronchial respiratory
sound, of the patent tubes with which it lies in
contact — or if there be such a sound — or
what is more probably the case — the air
entering
entering the sound part of the lung, passing over the open mouths of the bronchi of the hepatisation part, produce the whistling sound in the same manner as breathing with the mouth over a number of small tubes closed at one extremity.

The voice of the patient reverberates in the open bronchi, or appears to the listener as do the warm dense part of the lung conveying the true sound of the voice, but which in the healthy state of the lung is obscured by the vesicular movement and the thickening of the vascular structure. This sound is named Bronchophony.

There are the sounds heard in the stage of the disease - Bronchial respiration, and Bronchophony, but sometimes one sound at all is audible - the lung may be felt to heave up against the chest, but emit no sound. The presence and intensity of Bronchial respiration and Voice, vary according to the part of the lung affected and extent of the disease. Thus they are most distinct when the hepatisation occupies the upper part of the lung, or the central. Where the bronchi are largest and most numerous - but when the surface
or lower part is affected, the sounds are less distinct or may not be heard at all. If again hepatisation should be so complete and general in one lung as not to allow of its expansion, then bronchial respiration will be totally wanting - at least inaudible on account of its distance - or perhaps it is scarcely produced the amount and force of the air passing over the mouth of one large tube not being adequate to produce it - Moncopony, however, may remain.

With the bronchial respiration there is also usually present dullness or sonority. The intensity of the dullness will depend on circumstances; for if the hepatised part approaches, or lie in contact with, the ribs, the sound produced will be distinctly dull - but if a portion - even thin - of the sound tissue intervene, then the dullness will be less marked, though of the other lung be sound the corresponding resonance will at once detect it.

But another symptom remains, viz. "pneumic respiration" - this occurs in the sound pulmonary tissue and is an evidence that too much work is thrown upon it.
Nor this is the critical period in pneumonia. Resolution may take place in two ways:—for if the disease has been slow in progress, the portion of lung which has been condensed, becomes harder and drier, with a more uniformly gray color; and the patient either dies in this state, or recovers with a portion of the lung permanently condensed and insensible to air; it may turn black by usual deposit in the lung of caseousaceous matter, and rarely paves into ulceration, unless there has been a previous deposition of tubercles, which cause a permanent shortness of breath, and predispose to other diseases of the chest, and to dropsy.

But the disease may acede, and the lung regain its normal sounds and be again capable of performing its function—gradually a slight amount of air penetrates the dense portion, producing seeable Crepitation, which is most marked at the end of each inspiration. This increases in strength and intensity, and consequently the bronchial inspiration and prolonged expiration are more and more obscured, for now the lung is becoming more opaque, and less fitted to conduct sound. By degrees these sounds disappear altogether, the vesicular murmur reappears amid the Crepitation.
Complication.—Finally, supervening it—till at length the part is restored to its pristine state and function but much more liable to acquire inflammation than the uninjured parts of the organ. Thus are indeed the reverse symptoms by which the disease was traced, with the modification that the expectoration is larger and coarser, in consequence of the thicker nature of the secretion in the bronchi and by regularly diffused than that of suppurating pneumonia. Expectoration may also be heard for some time after apparent recovery, by causing the patient to inspire strongly.

The third stage of pneumonia is not to be traced with the stethoscope as the two former stages were. At some time it is indeterminate whether the lung is still in its hypertrophied state or passed into that of serous or fibrinous infiltration if the latter the structure of the lung breaks down, letting loose the purulent matter in capsules. This is expectorated and air filling its place produces large purplish sounds. It is questionable whether the lung is capable of repair after this stage is reached. It is likely that recovery from diffuse suppuration is impossible—but some say that the third
Stage of pneumonia may terminate in resolution without disorganization of tissue. The yellow color becomes paler and whiter, the fluid is mixed with mucus and then again with air bubbles, and in a short time the pus alone presents itself in small specks. It loses its hepatic simmer and its only its first degree of simmer. If resolution be far advanced the surface is of a dirty yellow or greenish color, and a slight sanguineous effusion remains.

After death there will often be found the three degrees of pneumonia present in the same lung, and indeed the symptoms of these will be found in examination of the living body. At one part there may be minute emphysema, at another bronchial secretion, bronchophony, and dullness on percussion — and in a third, pulmonary respiration, or no sound at all.

Still there are circumstances under which — though pneumonia be present — there will be distinguished no indicative sounds of its extent, situation, or even of its existence. Respiration is full and clear, perhaps exaggerated, and this at once leads to the suspicion that some portion has resigned its function, thus paving greater strait on the remaining parts. The cause, may then be pneumonia, the not necessarily
Ascultation fails when the disease is small and deeply seated. It is for this reason that auscultation gives no information regarding tubular pneumonia when distant.

There then are some of the physical signs which accompany and indicate the acutepine change in texture—both destructire and reparatory—which take place in Pneumonia. The general indications of the disease require now to be considered.

So many, indeed, in most cases the disease is ushered in with rigor, there are followed by heat and dryness of skin, increased frequency of pulse $=$ the usual symptoms of pyrexia. Shortly after, a "stitch" or catching pain is felt in the side, generally under and external to the nipple (though this is considered more as an indication of pleurisy than of pneumonia, but indeed pleuro-pneumonia is much more common than pneumonia alone). Cough is sometimes present, and oppression over some part of the chest is a common symptom.

In other instances, Pneumonia may succeed an attack of bronchitis, the inflammation seeming to pass from the lungs to the
smaller bronchi, and finally to the air cavities themselves.

At the commencement of the disease the cough—if present—may be dry, but afterwards it is accompanied by a characteristic expectation. Dyspnoea is sometimes severe even at the outset. These symptoms, therefore, may be enumerated as—pain, generally in one, it may be in both sides—dyspnoea—cough—specular expectoration—and pyrexia. But all these will not be found present in every case of incipient pneumonia.

For instance, the pain seems only to exist in those cases of pneumonia which are accompanied with some degree of inflammation of the pleura and—as before mentioned—they are the most numerous cases. Indeed there is no decided pain in a case of pure pneumonia, the sensation is more that of uneasiness, or constriction, or grasping of the part affected. The position of the patient is a tolerably good diagnostic sign of the difference between pneumonia and pleurisy, for in the former, the patient, if lying on either side, prefers that affected; whereas in pleurisy the same position would
would produce intense pain. The patient labouring under pneumonia generally lies on his back.

The amount of dyspnoea as a diagnostic mark of the extent of the disease is not always a criterion, although it generally is so; for in some, the inflammation of a very small portion of the lung will produce extreme efforts in respiring, while others will breathe with comparative freedom in whom a large portion of the pulmonary tissue may be implicated; so that the degree of dyspnoea is not a certain measure of the intensity, or rather, of the degree and extent, of the inflammation. It is probable that if the ordinary state of the respiration in health were ascertained, it would be found, that those respire most freely in pneumonia, who breathe most safely in health, i.e. make use of a part only of the lung for respiration—because, they not using all the healthy lung for breathing, are best spared a part to be inflamed, and yet not suffer much, or any, inconvenience.

It has been observed that inflammation of
of a superior who causes much more dyspnea
than when it occurs in a lesser.

The patient's action, in regard to dyspnoea, is
not always to be relied on implicitly. For they
are often seen making great efforts to expire-
during an unnatural expiratory, and pausing
between every three or four words to gain breath-
while they aver that they have no difficulty
in breathing. However, the dyspnoea pro-
duced by this disease varies greatly in degree
in different cases. Sometimes it is scarcely
noticeable either to the attendant or patient.
Sometimes, on the contrary, it is so intense that
the patient is totally regardless of what is
depiring around him, and seems wholly occupied
in expiring; he is restless and uneasy; sits
up in bed, and can scarcely find time to
speak; the face, pale or livid, is expressive of
the greatest anxiety; the nostrils are expanded
for the admission of the largest feasible amount
of air; the respiratory movements are frequent,
short, quick, and shallow, as if the admitted
air passed only to the primary divisions of
the bronchi. When this state has supervened
the
the case is nearly a hopeless one. Of course there exists every degree of difference between this and the former case.

When delirium occurs (as it frequently does) during the course of a pneumonia attack, it denotes a serious degree of mischief in the pulmonary texture. It indicates that there is not a sufficiency for the due arterialization of the blood, which consequently leaks to the brain in a partially venous state.

Cough, in pneumonia, affords little information, as it has no peculiar character. Usually it is not present at the commencement of the inflammation. When it is present, it is without sputum and does not occur in paroxysms. After some time there is expectoration of mucus, said to be peculiar to pneumonia, and a certain diagnostic nature of its presence. It is composed of serum, with fibrin and blood, along with the mucus naturally secreted in the papillary. It is easily recognizable when well marked, as it consists of a transparent and moist, or murry, or tarry matter, forming when accumulated, a jelly-like mass in the vesel. It is very viscous, adhering to the vesel when inverted, and
even when it is strongly shaken in that position the paper is not detached from its sides.

This peculiar appearance of the effusion is not essential in pneumonia, although when it is present it is an almost certain sign of the presence of that disease. It is found usually on the second or third day. The expectoration previously consisting of bronchial mucus merely.

The most color is produced by blood being thoroughly mixed with mucus—not streaked as often happens in bronchitis—or unmixed and bright as in hemoptysis. As long as the expectoration flows easily along the sides of the vessel, there is reason to think that the disease has not yet passed the first stage—serum and blood alone have beeneffused—but when it attains the extraordinary viscosity described above, then there is a threat that the disease has arrived at the second stage. Lymph has been effused as the commencement of the separatory process. Now the chest sounds dull on percussion, the vesicular breathing is absent, and in its place will be found bronchial respiration. The disease is now at its height, and the expectoration is
For a time stationary. With the return of the disease, there is a return of the mucous secretions, then of the serous fluid. But if, instead of this desirable sequence, the disease should proceed to the next stage, expectoration is delayed, or there may be none at all, for the mucus, thickly secreted, cannot be thrown out, either on account of its tenacity, or for want of power or the want of the patient. It accumulates successively in the bronchi, trachea, and larynx, and suffocation may be the result.

In some cases in the advanced stage of pneumonia, the sputum has a brownish juice appearance, and the consistence of firm water. This may indicate the third stage, the breaking up of the inflamed part. This is also sometimes expectorated in the third stage. That the true color of the sputum in pneumonia, or blood may be easily known, by adding blood, drop by drop, to any thick transparent fluid, when all the shades of color observable in the expectoration may be demonstrated, from pale yellow, and muddy, to deep red. The last shade, however, belongs more properly to pulmonary emphysema.
It is also to be observed that these so-called
pneumonic eczema are commonly present in that
disease, still, pneumonia may occur with an
expectoration similar to that in common catarrh
or even with scarcely any at all.

The expectoration, when eruption of the lung
has followed inflammation, is reddish, reddish-grey,
or greenish, liquid, very offensive—similar in
this respect to gangrenous fluid produced on
other parts exposed to the air.

The purulent expectoration from circumscibed
abscess of the lung is also very offensive—
These then are the typical symptoms of
pneumonia, its commencement, progress, and termination.
They may concisely be enumerated thus: At first
there is generally pain in some part of the chest
usually under the nipple, sometimes preceded by
shivers; respiration is contracted, there is slight
cough without expectoration; and fever, often
distinctly inflammatory, but not unfrequently opening
more of the lymphoid type than that of any other
idiopathic internal inflammation; the pulse is frequent
and soft, and there is much feeble delirium
and muscular debility, even in some cases.
dry tongue, delirium and subcutaneous tenderness, while the progress of the disease shows that there is no complication with truly typhoid or Contagious Fever.

On percussion, the lung still retains its normal sound or nearly so; by auscultation, there is discovered expectoration, minute, and not as yet covering the vesicular murmur. These are the phenomena of the first stage.

Of the second there are new symptoms; expectoration, which was previously absent, or of the common catarrhal type, has now become characteristic; it is viscid, yellow, brown or red, with all the intermediate shades of color according to the quantity of blood amalgamated with the mucus. The expectoration formerly minute is now enlarged, assuming the normal sound of respiration. There is marked dullness on percussion over the part affected; and the uneasiness felt in the chest is augmented, although the sharp pain (if there have been any pleurisy present) is diminished.

difficulty of respiration is present, as evidenced by the efforts on the part of the patient, he lies on the side affected, or much more commonly prefers to lie on his back. This is near the

[ending of text]
turning point of the disease where it generally
remains for some time, either retailing with a regular
retrogression of symptoms merely prolonged in
continence, or the heat intensity may destroy
the patient; or the inflammation, instead of retrogressing
process to effect further damage, the breathing
becoming more and more laboured and shallow;
there is little or no expectoration, the patient,
breathless and the great congestion of the spation
preventing this: expectoration produces a dull
sound, perhaps there is still present some
expectoration, but no vesicular murmur. Often
there is no sound at all audible, or bronchial
expectoration and bronchophony alone; the
dorsal position is almost always assumed.
The patient in this state is frequently speeded
by agenesis. Still there is hope of resolution,
agenece and fever diminish, and there is a return
through all the stages to a normal state. There
are the symptoms of the second stage; but there
is great difficulty in determining the boundary
between this and the next; for there are no
certain means of arriving at a certain diagnosis
of the third stage. That the pneumonic
has
has passed into the condition may be suspected if the patient become pale and cadaverous, the sphygmographic water appearance, or puriform nature of the expectoration almost establishes the suspicion, especially if the pneumonia be of a certain standing but the last phenomena may occur in a much earlier stage of the disease. A question here arises as to whether the pneumonia be still capable of resolution. If this be the case, the possibility of cure is more likely if the indistinctness of the third stage. It is probable that when diffuse posterior infiltration has taken place there is unsuitability of cure being affected. During the progress of suppuration, this is more or less frequent, and if the fever be not subsided within three weeks of the commencement of the disease it may always be apprehended that ulceration, sometimes without, but more frequently with tubercular deposit is to result. Pneumonia usually comes in ten days or an average, rarely it extends to several weeks, and it is seen that its duration is less than a week. Pneumonia may occur at all ages but in most frequent feller age of life. The Causes are sometimes sufficiently obscure.
Colds—when the body is heated, or when its operation is aided by other circumstances—is the most common cause, but in some cases there are no adequate exciting causes traceable.

Symptoms. In general the first stage of pneumonia is much less dangerous than the second, and the second than the third. But at times, the degree of the first stage will be attended with more danger than a much less amount of the disease in its second. The whole of both lungs is never found in the second or even the first stage of inflammation, and this is for obvious reasons.

For an obstruction of the wind could not take place instantaneously, and must render respiration quite impossible; but it is by no means uncommon to meet with cases in which one whole lung and more than the half of another are quite uninflamed. On the other hand, death may take place before the obstruction has reached the fourth part of the organs of respiration; which proves that death is frequently caused much more by the exhaustion of the vital principle than by the extent or intensity of the organic alteration.
dangrous than when it exists in the liver. For in the former case a predisposition to tubercular disease will be produced. There is no doubt that the disease may be cured although the greater part of the lung be converted, but no proof exists that the third stage of pneumonia can or ever has undergone resolution. Among general symptoms the state of the respiration must be counted as the most important, and the independantly of circulation. If the dyspnoea be present whatever be the ascertainment state of the lung by other means the patient is in a dangerous condition, more especially if the pulse be weak at the same time. Delirium, the result of the circulation of venous blood in the brain, is a most unfavorable symptom. The state of the spiture as a means of prognosis has been already stated. When the viscidity is poor and the most color deep, an intense degree of inflammation must be inferred. When the catarrhal type is reproduced a resolution of the disease may be expected. Wasting and also the purer urine spiture indicates that the pneumonia has reached its third stage, and consequently that the patient is in a dangerous state.
The tendency to pneumonia is much greater in some individuals and families than in others, and is greatly increased by its once having taken place. It is also remarkably increased by disease of left side of heart, and the prognosis in this case is very unfavorable.

Treatment is that which is employed in inflammation of other parts of the body, the principal means of removing the disease are Blood-letting, tartar emetic, mercury and the antiphlogistic regimen.

The propriety of blood-letting in pneumonia in any stage is a question regarding which there are a great many contradictory opinions. The general rules and indications with respect to the manner and amount of blood-letting in this or any other disease are, that it will be beneficial, certain families, in proportion as it is early - viz. in the first stage. The patient should be bled in the upright position, in a full stream, and from a large orifice, not to a stated amount in ounces, but until some sensible improvement is made on the system, until the pulse becomes softer - or if it were contracted, till it becomes fuller - until the feeling of constriction be abate.
and the dyspepsia relieved, or until syncope be indicated. The bleeding may not suffice, reaction comes on in the course of a few hours, if the bleeding may require to be repeated even more than once. The state of the patient is to be carefully watched on this account. Local depletion, by leeches or cupping, is frequently of service. The antiphlogistic regimen is to be rigidly enforced; the patient must keep his bed, if not be allowed to make any useless excitement of his limbs by walking.

The propriety of bleeding in the second stage depends altogether on the circumstances of the case. When there is great dyspepsia, moderate bleeding will diminish this distressing symptom, and may tend to prevent the extension of the inflammation. But care must be taken not to lower the vital power in a degree beyond what is necessary for the abatement of the inflammation.

After bleeding has been employed, or when bleeding is not applicable, there are two medicinal agents employed—tartar emetic and mercury. The former is best adapted for the first stage, that of enforcement. It is not to be given in such doses as to produce its full medicinal effect.
It is remarkable that when a full dose has been given the first effect is vomiting, followed by purging, and the dose generally produces neither of these symptoms; this is a good instance of the tolerance of a remedy produced by custom. When this happens, the beneficial effects are as well established as when vomiting or retching has been the result. Tolerance is generally established after the third or fourth dose, but some patients do not vomit at all, while in others the vomiting and purging continue for some time; in these cases it may be checked by a few drops of laudanum in each dose. Perhaps it is as well to prevent the vomiting altogether, and this is accomplished by commencing with very small doses of the tincture, with the addition of laudanum, or syrup of pepper, and repeating the dose frequently, increasing the dose if there be tendency to vomiting, or leaving it off if no nauseating symptoms supervene. The dose of tincture emetic may be a third of a pint to begin with, purée every hour, and for every two successive hours adding a third of a grain more. Under this treatment a favorable change may be visible in a few hours.
or there may be no marked improvement for a day or two. It has been remarked that the effect of this remedy is most speedy. When it seems to act on the disease alone, not producing vomiting or purging, or too great debility of the system generally. The treatment may be continued till after the difficulty of breathing is conquered, and should there occur a relapse, it must again be had recourse to the similar effect has been experienced.

It may be here remarked that, tinctur arsenes, when mixed with fresh drawn blood, prevents its coagulation, and this, along with its depurating effect on the system, may explain its mode of operation in the first stage of inflammation.

Mercury is the remedy most applicable to the second stage of pneumonia, that in which the consolidation is consolidated, and for the removal of speedy resorption it should be given in small doses frequently repeated, as this seems to be the mode by which its constitutional effects are most rapidly induced, combined with the inhalation of the Mercurial ointment. The administration should be pushed to tenderness of the gums but no further at a time. The best form is that of the pill.
pill of calomel and opium. Blue pill or the
Hydr. C. everts will be found convenient substitute.
Many patients recover from the second stage of
pneumonia by means of a slight course of mercury,
but if it be contra indicated in some cases even when
no previous constitutional disorder are opposed
to its exhibition. For if the pulse be irregular or
weak, the face haggard or pale, the tongue dry,
or a tendency to delirium, then the patient must
be phlegmated, he is sinking, and would swiftly more
rapidly were the mercurial treatment to be adopted.