

Report of a Committee of the associate medical members of the Sanitary Commission on the subject of pneumonia.

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J. H. Bennett
with the Author's regards

SANITARY COMMISSION.

(5)

J.

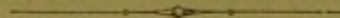
REPORT

OF A

COMMITTEE OF THE ASSOCIATE MEDICAL MEMBERS OF
THE SANITARY COMMISSION

ON THE SUBJECT OF

PNEUMONIA.



NEW YORK:
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1862.

THE attention of the Sanitary Commission has been directed to the fact, that most of our Army Surgeons, now in the field, are unavoidably deprived of many facilities they have heretofore enjoyed for the consultation of standard medical authorities. It is obviously impossible to place within their reach any thing that can be termed a medical library. The only remedy seems to be the preparation and distribution among the medical staff, of a series of brief essays or hand-books, embodying, in a condensed form, the conclusions of the highest medical authorities in regard to those medical and surgical questions which are likely to present themselves to surgeons in the field, on the largest scale, and which are, therefore, of chief practical importance.

The Commission has assigned the duty of preparing papers on several subjects of this nature, to certain of its associate members, in our principal cities, belonging to the medical profession, whose names are the best evidence of their fitness for the duty.

The following paper on "Pneumonia" belongs to this series, and is respectfully recommended by the Commission to the medical officers of our army now in the field.

FRED. LAW OLMSTED,

WASHINGTON, *December 30th*, 1861.

Secretary.

REPORT.

OF the diseases which the Army Surgeon must expect to encounter in the present unhappy contest, pneumonia is one of the most important. This disease has already prevailed to a considerable extent among the troops on the Potomac and in the West; but it will, doubtless, prevail to a much greater extent during the months of winter and spring. It prevails habitually much more among the inhabitants of the Middle and Southern States than at the North. It will be more likely to occur among Northern soldiers in a Southern climate than among native or acclimated residents. Statistics show that it occurs much oftener among those who are exposed to the vicissitudes of the weather than among those whose occupations involve confinement within doors; hence, it may be expected to prevail especially among troops in active service. Not only the prevalence, but the gravity, of this disease is greater in the Middle and Southern than in the Northern States. A larger ratio of deaths in the former than in the latter is to be expected. In sections in which the periodical fevers are rife, pneumonia is apt to be extremely fatal. This is the uniform testimony of physicians practicing in malarious regions, especially at the South.

These considerations show sufficiently the importance of the subject of pneumonia, at this time, to the Army Surgeon. But others may be added. Not only has pneumonia been

studied, within the last few years, with diligence and success, as regards its morbid anatomy, symptomatic phenomena, pathological character and laws, but, perhaps, on no other important inflammatory affection has clinical observation been brought to bear so fully and efficiently as regards the management. In the first place, abundant facts have been collected respecting its course when uninfluenced by active medication—the true point of departure for the satisfactory study of therapeutics, as applied to any disease. And, in the second place, data have been afforded for judging of the value of different methods of treatment. As a consequence, a considerable change has taken place in the opinions and practice of not a few members of the medical profession with respect to the management of pneumonia. Therapeutical measures, which, but a few years ago, were generally regarded as essential to its successful treatment, are now by many deemed often needless and hurtful. On the other hand, measures formerly considered to be uncalled for and hazardous, are now thought to be highly important in certain cases. Believing that, after making due allowance for a tendency to pass to opposite extremes, which characterizes the fluctuations of medical doctrines, a real and truly important progress has been made of late in practical views respecting this disease, it is not unreasonable to suppose that, of those who have been called by the present contest from civil to military practice, some may not have given much attention to the subject, and, therefore, adhere to views which, with our present knowledge, are not tenable. Many of the medical officers of the army have seen but little of the disease in comparison with the opportunities for observation which will now be opened in their new sphere of action. Moreover, most of those who are entering upon military experience have seen but little of pneumonia as it will be presented to them in soldiers occupying the Middle and Southern States. These

last-mentioned considerations, doubtless, have been in the minds of the members of the Sanitary Commission, at whose instance this Report is submitted.

It is hardly necessary to say that the discussion of questions relating, directly or indirectly, to the management of pneumonia, would be here out of place. The purpose of this Report is to premise a few propositions, embodying certain pathological facts, having obvious relations to the management of the disease; and, then, with reference to the leading indications for treatment, and the employment of different therapeutical measures, to present, as concisely and compactly as possible, the practical views which appear to the Committee to be most consistent with our present knowledge of the disease, and with the results of clinical experience.

1. Ordinary pneumonia, uncomplicated and not extending over more than a single lobe, does not, *per se*, involve much, if any, danger to life. The truth of this statement has been shown by large collections of cases in which the disease has been allowed to pursue its course without medicinal treatment, or with only palliative remedies. A fatal termination, therefore, in such cases, must depend on circumstances incidental to the disease, or on injudicious interference. It is obvious that, when active measures of treatment are indicated in such cases, the indications are derived from the incidental circumstances more than from the disease itself.

2. The disease is much more grave, and becomes dangerous to life, when it invades more than a lobe, affecting an entire lung, or, more rarely, portions of both lungs (double pneumonia). The greater proportion of these cases is one of the reasons of the greater fatality of pneumonia at the South. In many of these cases, however, recovery takes place, and the symptoms do not always denote great gravity or danger. A source of

gravity in these cases, to which attention has not been sufficiently directed, is the large amount of exudation matter deposited in the lungs. In fatal cases, in which an entire lung is solidified, the increased weight of the affected lung, due to the solidifying deposit, may be as high as four pounds. This large quantity of matter is, of course, withdrawn from the solid constituents of the blood.*

3. The complications of pneumonia account for the danger to life in certain cases. One of the most serious complications is pericarditis. This occurs oftener at the South than at the North. This complication does not render the termination necessarily fatal. Patients may recover, even when, in addition to this complication, an entire lung is involved. A degree of pleurisy exceeding that generally co-existing with pneumonia, and attended by considerable effusion (which is rare), accounts for the danger in some cases. It may be remarked here that the co-existing pleurisy is the source of acute pain in pneumonia. Pneumonia, without pleurisy, is attended with little or no pain. Intermitting fever and pneumonia may be associated,—each affection serving to mask, to a greater or less extent, the other. This complication is attended with great danger, and calls for prompt and efficient measures of treatment addressed to the intermitting fever. In the intemperate, delirium tremens is apt to become developed, and prove a serious complication, claiming efficient treatment. Cholæmia, or jaundice, is occasionally an incidental event in pneumonia. It does not, however, denote an important hepatic complication, and does not call for active remedies designed to act upon the liver. The propriety of recognizing “bilious pneumonia” as a variety of the disease, may fairly be questioned.

* See Clinical Lecture, *New Orleans Medical Times*, March, 1861, and the *New York Medical Times*.

4. Pneumonia occurs as a complication, or secondary affection, in the course of other diseases. Its occurrence in rubeola is not unfrequent. It is apt to occur in the continued fevers, typhus and typhoid. It adds much to the danger in these diseases. An important distinction is involved in typhus or typhoid fever, complicated with pneumonia, as compared with the so-called typhoid pneumonia. In the one case, the primary disease is the continued fever, the pneumonia being developed secondarily; in the other case, the pneumonia is the primary disease, certain symptoms becoming developed which denote what is commonly known as the typhoid condition.

5. The general and local symptoms accompanying pneumonia, when primary and uncomplicated, differ widely in different cases, and in these differences have originated certain varieties of the disease generally recognized by authors. When accompanied by high febrile movement—a full, hard pulse, and a hot skin—it has been called sthenic and frank pneumonia. Examples of this variety are oftenest seen in young, robust subjects, residing in healthy rural situations. When, on the other hand, the phenomena belonging to symptomatic fever are not present in a marked degree, the pulse and skin denoting diminished power of the circulation, the disease is said to be asthenic. In each of these varieties the local affection, so far as it can be appreciated by the physical signs during life, or by examination after death, may be the same. It is an expression of a well-known pathological fact, applicable alike to this and other inflammatory affections, to say that, with a similar amount of inflammation, different cases differ extremely as regards the disturbance of the system. The system appears to tolerate differently the same affection in different cases. And it is obvious that the management must have reference to the condition of the system quite as much as, if not, indeed, much more than, to the local affection. In cases

presenting passive delirium and adynamia, the disease is called typhoid pneumonia. Here, too, the gravity and danger relate not so much to the local affection as to the general condition; and here, also, the treatment is to be governed more by the general symptoms than by the degree or extent of the inflammation.

6. The rapidity with which the exudation takes place in pneumonia, sufficiently to solidify the affected portion of lung, is of importance with reference to treatment. Different cases differ in this regard; but it is not unusual to find the physical signs of complete or considerable solidification (bronchial respiration and bronchophony) within twenty-four hours after the date of the attack, and frequently this occurs in the course of forty-eight hours. Hence, were it possible to prevent this result, it must be by therapeutical measures which act with a promptness commensurate with the rapidity of the exudation.

7. Other important facts relate to the removal of the exudation. It is removed chiefly, or exclusively, by absorption, not by expectoration. The source of the expectoration in pneumonia is mostly, if not entirely, from co-existing circumscribed bronchitis. This fact has an obvious bearing on the use of remedies called expectorants, or, on the other hand, on the use of remedies which are supposed to interfere with expectoration. It is well known that pneumonia may be completely latent so far as cough and expectoration are concerned. The removal of the exudation may go on with great rapidity, even when no active measures of treatment are employed. In this respect cases differ greatly. It is certain that, before the natural course of this disease had been observed, the more or less rapid disappearance of solidification, occurring naturally, was often attributed to remedies supposed to act as sorbefacients. The complete removal of the exudation, in favorable cases, leaving the pulmonary structure intact, is an important as well as

highly interesting, fact. The tendency to run into a chronic form, as is well known, does not belong to this disease. It is rare for it to eventuate in the third stage, or the stage of purulent infiltration, even in fatal cases. Abscess and gangrene are also results extremely infrequent. With a few exceptions, it may be said that resolution of the affected lung is sure to take place if the life of the patient be sufficiently prolonged. This fact has a very important bearing on the indications for treatment.

8. In the majority of the cases in which pneumonia proves fatal, the mode of dying is by asthenia, rather than by apnoea. The patient rarely dies in consequence of the extent to which the respiratory function is compromised. It is not unusual to observe complete solidification of an entire lung with very little embarrassment of breathing. The fatal termination is much oftener due to failure of the powers of life. This is true of the different varieties of the disease, and of cases in which the disease is complicated or uncomplicated.

The indications for treatment in cases of pneumonia must have regard to the stage of the disease. When patients are seen in the first stage, i. e., prior to solidification of the affected lobe, important objects of treatment, if attainable, doubtless are the limitation of the inflammation, the prevention of exudation, and the restriction of the local affection to the lobe first invaded—in other words, the arrest of the disease. Are these objects attainable? With our present knowledge, this question resolves itself into another, viz.: Will the antiphlogistic method of treatment, so called, of which blood-letting is the most prominent measure, control the disease? Clinical experience certainly warrants the assertion that this

method of treatment cannot be relied upon for effecting the objects just named. If this method ever succeeds in arresting pneumonia, the chance of success in any case is too small to justify its employment whenever it comes into conflict with other indications, or, in other words, whenever it will be likely to do harm if it do not succeed. Abortive measures, other than those commonly known as antiphlogistic, do not require notice, and, indeed, there are none, at the present moment, before the profession.

Putting aside arrest of the disease as an object of treatment in the first stage, the inquiry arises, May not active measures, in this stage, so influence the disease as to diminish its intensity, and thereby the danger, aiding the patient to pass through it more safely and comfortably, if not more quickly, than if the measures were not employed ; and will not blood-letting conduce to these desirable ends ? A candid review of the discussions which have taken place within the last few years respecting blood-letting in pneumonia, together with the results of clinical experience, can hardly fail to lead to the conviction that, employed indiscriminately, it will do much more harm than good. This, it must be admitted, may be true, and yet blood-letting be useful in certain cases. Its usefulness is limited to cases characterized by high febrile movement, the patients being robust or of a full habit, and, of course, the disease not advanced to the second stage, when a pound or more of solid matter has been withdrawn from the blood to constitute the solidifying deposit. The abstraction of blood, if the pulse be strong, the skin hot, and the pain severe, with more or less dyspnœa, will undoubtedly afford relief, and sometimes, perhaps, place the patient in a better condition than if no active treatment had been resorted to. But even in the cases to which blood-letting is to be restricted, if employed at all, may not other measures be substituted

which will accomplish the same ends without the spoliative effects of that remedy? We think this question may generally be answered in the affirmative. Blood-letting in these cases is not so much a curative as a palliative remedy. It is addressed, not directly to the local affection, but to the symptomatic febrile movement, and can only influence the local affection indirectly in so far as the latter is intensified by the former. Now, the febrile movement may be not less efficiently restrained by saline purgatives and by the nauseant and arterial sedatives, of which antimony and the *veratrum viride* may be named as the most reliable. The salines deplete without the loss of the blood corpuscles, or spoliation, and the sedative remedies diminish the frequency and force of the heart's action. These remedies, then, may take the place of blood-letting certainly in the great majority of the cases in which this measure would be admissible if substitutes were not to be found.

Antimonial preparations and the *veratrum viride* are potent remedies which are only to be employed to meet certain indications. They may do much harm if injudiciously or indiscriminately employed. They are indicated in cases in which the pneumonia is said to be frank or sthenic. They are to be given with great circumspection when, from the previous health, the constitution of the patient, or other circumstances, danger is to be anticipated from failure of the vital powers. They are never to be carried to the extent of producing marked depressing effects. The benefit to be obtained from them can be secured without these effects. They are not given to influence the local affection directly, but only through their action upon the circulation. They are imperatively contra-indicated whenever the action of the heart, as represented by the strength of the pulse, denotes a tendency to failure of the powers of life. Given, or persisted in, under these circumstances, they will contribute to the danger of death by asthenia.

Relief of the acute pleuritic pain which belongs, in some cases, to the first stage of pneumonia, is an object of treatment. Restraining the movements of the affected side, pain induces fatigue, from the increased frequency of the respirations, and conduces to suffering from dyspnœa. Local measures will do much toward this object. A considerable number of dry cups is an efficient measure. Wet cupping should be limited to cases in which the loss of the blood abstracted by this mode will be well borne.

Stupes with water only, or with some stimulating application, such as the spirits of turpentine, often afford marked relief. The oiled muslin jacket contributes to comfort by keeping the surface of the chest moistened with perspiration, and, if a flannel covering be added, all the advantages of a poultice, or the water-dressing, are secured. It is hardly necessary to say that blisters are inadmissible, certainly in this stage. There need be no reluctance in prescribing opium in this stage, for the relief of pain. The value of opium for other objects will claim attention presently.

If the phenomena of intermittent fever are developed, quinia should be given promptly and in efficient doses. The paroxysms should be arrested as speedily as possible. The patient may be placed in great danger by their repetition. The existence of the pneumonia and the degree of symptomatic febrile movement in no wise conflict with this important indication; indeed, so far from conflicting with it, the sedative influence of full doses of quinia may be useful, aside from the arrest of the paroxysms. In a malarious region, or if the patient have been subject to attacks of intermittent fever, it is judicious to forestall the possible development of the latter affection by moderate doses of quinia. It is a good rule, in such cases, to commence at once with the use of this remedy, irrespective of the liability to the occurrence of intermittent paroxysms. The malarious cachexia impairs the power of

resisting the disease; hence its greater fatality in malarious regions, even when uncomplicated with intermitting fever.

The indications which have reference to the second stage of pneumonia are now to be considered. And it is to be borne in mind that this stage occurs in the vast majority of cases, and often speedily follows the attack. The change, as regards the indications, renders it important to determine when the disease has passed into the second stage—in other words, when the solidification of the affected lobe has taken place. The physical signs of solidification (bronchial respiration and bronchophony) afford reliable evidence on this point. The absence of chlorides in the urine, also, may be relied on with considerable, but not implicit, confidence, that the process of exudation is going on.

In the second stage, so far as the local affection of the lobe primarily involved is concerned, all the mischief which, in the majority of cases, may be expected to occur, has already occurred. The only untoward events (exclusive of complications) which are to be apprehended are the invasion of other lobes, and possibly suppuration and gangrene. The probability of the invasion of another lobe cannot be determined, and, if this were possible, the prevention does not lie within the scope of our resources. What, then, are the objects of management in the second stage of pneumonia?

It may be assumed that blood-letting is not indicated in the second stage. The nauseant and arterial sedatives may be indicated by the persistence of high febrile movement in certain cases; but they are to be employed with even greater circumspection than in the first stage, and they are not to be given for other objects than those already stated. In a large proportion of cases they are either uncalled for or contra-indicated in this stage.

In order to answer the inquiry just made, let it be asked,

What are the requirements for recovery in the second stage of pneumonia? So far as the local affection is concerned, the exudation is to be removed; in other words, resolution is to take place; and, as regards the general condition, the powers of life must be adequate to carry the patient through the processes of restoration. The objects of treatment must relate to these requirements. The question, then, is, What can be done to promote resolution of the local affection, and what to aid the powers of life to effect recovery?

First, as regards resolution of the local affection. Antimonial preparations have been considered to contribute to this object. Laennec, ascertaining by means of physical exploration the rapid disappearance of solidification under large doses of tartar emetic, was led to extol this remedy. But at that time cases of pneumonia without any active treatment had not been observed. It is now certain that the solidification may disappear with great rapidity, not only under different remedies, but when no remedy is given. Laennec and others naturally enough mistook for the effects of medication the changes occurring in the natural course of the disease. With our present knowledge, preparations of antimony are not indicated for the object under consideration. Given for this object, when uncalled for or contra-indicated by circumstances relating to the general condition, they are not merely superfluous, but hurtful remedies,—the injury, of course, being proportionate to the extent to which they are given.

It is not long since physicians generally deemed it important to give mercury, with a view of promoting resolution, and to push this remedy to ptyalism. But clinical observation has sufficiently shown that absorption of the exuded matter goes on as well without as with mercurialization. There is no need, therefore, of incurring the depressing effects of this treatment. And if mercurialization be not needed, it is cer-

tainly not devoid of harm ; for every active remedy is potent either for good or evil, and, if not useful, it can hardly fail to be hurtful.

Blisters are still too often employed in pneumonia in order to hasten resolution. There is no evidence that they contribute to this object, and they are highly objectionable on account of the annoyance and irritation which they are likely to occasion. Moreover, they interfere with the daily examination of the chest, by means of which alone accurate information respecting the condition of the lung is to be obtained.

Remedies to promote expectoration are sometimes considered as important. This is probably based on the idea that the expectoration contributes to the removal of the solidifying exudation,—an idea already stated to be erroneous. Clinical observation shows that resolution may go on with great rapidity without any expectoration. It is true that an accumulation in the bronchial tubes takes place in some cases, toward the close of life, and doubtless contributes to a fatal result ; but the accumulation is due, under these circumstances, to a degree of asthenia, impairing the muscular power necessary for the acts of expectoration, and expectorants are not adequate to afford relief.

In short, it may fairly be doubted if, with our present knowledge, we are able to expedite resolution by any measures employed directly and specially for this object. There are grounds for believing that measures having reference to the general condition of the patient are the most efficient means of acting on the local affection.

Second, as regards measures having reference to the general condition of the patient. The most important of the principles of treatment in pneumonia fall under this head. Resolution of the local affection may take place more or less slowly, but it will take place if the patient do not succumb.

The danger in severe cases is generally not from the amount and persistence of the solidification of lung, but from the failure of the vital powers before the resolution is accomplished. Pure pneumonia is as much a self-limited affection as the essential fevers; divested of complications and accidents, it runs a definite career, and ends in restoration, if life be sufficiently prolonged. The exceptions to this statement are the rare instances in which the affection runs into the purulent stage. In the majority of fatal cases, as already stated, death is attributable more to asthenia than to apnœa. These considerations, together with the results of clinical experience, enforce the importance of the supporting treatment in pneumonia.

To support the powers of life, is the leading general indication in the second stage of pneumonia. This indication, in urgency, varies much in different cases. In general terms, it is urgent in proportion to the danger from asthenia. It should govern the treatment in those cases distinguished as asthenic, and whenever there are grounds for distrust of the adequateness of the vital powers to carry the patient safely through the disease. It is a serious mistake to defer supporting measures until the symptoms denote imminent danger from failure of the powers of life. If deferred until then, they will probably be too late. The observing and skillful practitioner will foresee and endeavor to forestall a degree of failure attended with imminent danger. The constitution of the patient, his previous health, and his habits, are to be taken into account in judging early of the ability to sustain the disease. Other things being equal, in a warm climate patients are less able to sustain it than in cold or temperate climates; supporting treatment, therefore, is oftener and earlier called for in the former than in the latter. The plantation negro at the South is less able to sustain it than the white man, and, consequently, is more likely

to need support. In the varieties of the disease distinguished as asthenic and typhoid, the reliance for successful management must be on supporting measures. These views are the more to be impressed, because it is undoubtedly true that, until lately, the minds of medical men have been so much occupied with the means of subduing inflammation as to overlook the fact that the means for this end not only often conflict with those which are more important for recovery, but may be positively injurious, and even destructive to life. The attention has been directed too much to the disease, and too little to the patient. We have seen that we cannot expect to subdue the disease; we can only hope, in the first stage, to moderate its intensity. But not a little can be done, by judicious management, toward aiding the powers of life to carry the patient safely through the disease.

The supporting treatment embraces tonic remedies, alcoholic stimulants, and nutritious diet. Of tonic remedies, quinia is to be preferred. It is not indicated in mild cases; but, whenever there are grounds for anticipating undue depression of the powers of life, it may be given, and continued during the progress of the disease. The propriety of giving this remedy, in tonic doses, in a malarious region, as well as to patients who have had periodical fever, has been already mentioned in considering the treatment of the first stage. Under these circumstances, the continuance of the remedy during the second stage is not less appropriate.

Alcoholic stimulants form a very important part of the supporting treatment in this disease, as in all others, whenever the great object is to keep the patient alive until the disease has reached the end of its career and advanced into the stage of resolution. The principle is the same as in the essential fevers. And here, as in the management of the essential fevers, alcoholic stimulants are indicated to an extent commensurate

with the danger from failure of the vital powers. In pneumonia, as in typhus or typhoid fever, there is often a remarkable tolerance of alcohol; and the only guide, as regards quantity, is the effect as manifested by the symptoms. No abstract rules can be laid down, applicable to all cases; but careful observation must furnish the rule proper to each individual case. Here, too, as in the continued fevers, because alcoholic stimulants are vastly important in some cases, it is not to be inferred that they are invariably indicated, nor that they can never do harm; on the contrary, if pushed to an injudicious extreme, they are as potent for evil as they are potent for good when judiciously used.* The question may be asked, Under what circumstances is their use to be commenced? We may say that they are indicated always so soon as evidence appears of any tendency to failure of the powers of life. And of this, the action of the heart, as represented by the pulse, is the best criterion. Feebleness, great frequency, and a pulse vibratory or thrilling, but compressible, denoting increased activity but diminished power of the ventricular contractions—these are the characters which indicate supporting measures, of which alcoholic stimulants are an essential part. Given at first in small or moderate doses, the effect is to be watched, and the quantity increased in proportion to the urgency of the indication. The habits of the patient, as regards the use of alcoholic drinks, are, of course, to be taken into account. Whenever the question arises, in the management of a case, whether alcoholic stimulants are advisable, or not, it should be borne in mind that to begin earlier than they are required is far preferable to subsequent delay; for, with proper care, they can be suspended without any injury having been done; but the time lost, by beginning too late, cannot be regained.

Alimentation is an essential part of the supporting treat-

* In view of a tendency, at the present time, to an excessive use of alcoholic stimulants, the Committee desire to impress the importance of the exercise of proper discrimination and care in their use.

ment. It is not less important to *feed* pneumonias than to "feed fevers," or other diseases, whenever there is danger from failure of the vital powers. If this be considered as a bold assertion, it is believed the only reason is its novelty. It is not long since the idea of feeding fevers was equally bold, because equally novel. The statement that patients with pneumonia may safely be encouraged to take nutritious food during the whole course of the disease, is based on considerable experience. And this should enter into the treatment in proportion as the symptoms denote a tendency to asthenia. Animal essences, or soups, milk, and farinaceous substances, should be combined to form the diet, thus securing a proper variety of alimentary principles. The desires and taste of the patient may generally be trusted. The juice of fruits may be allowed.

It may be considered as superfluous to say that, when the supporting treatment is indicated, measures which conflict with this treatment are contra-indicated. But custom has so long sanctioned the abuse of purgatives, that it may not be amiss to caution against their injudicious use in pneumonia. The usefulness of saline remedies of this class, in the first stage, has been alluded to. They are useful as means of depletion without spoliation. After the first stage, purgatives are only indicated when inconvenience arises from accumulation in the bowels; and the mildest measures suffice. Active cathartics depress the vital powers, and, in this way, do harm in proportion as supporting measures are called for.

The use of opium may be considered in connection with the supporting treatment. Opium may be given, as already stated, to relieve acute pain in the first stage. It may be given, also, to allay cough. But, aside from these objects, clinical observation shows this to be a most valuable remedy in the treatment of pneumonia. Given in full doses, in certain cases, it tranquilizes the system in a remarkable manner. The frequency of the pulse and respirations is sometimes nota-

bly diminished. Refreshing sleep is obtained. It appears to render the system tolerant of the local affection, if, indeed, it does not, in some instances, induce a more speedy commencement of resolution than would otherwise have occurred. These statements are based on the employment of this remedy in a large number of recorded cases.* An objection to the use of opium, on the score of interference with expectoration, is already disposed of. Expectoration is of no importance with reference to the resolution of pneumonia. That opium does not retard the absorption of the exudation, is shown by the rapid disappearance of solidification in cases in which the remedy has been freely given. The cases to which opium is specially applicable are those in which the affection excites unusual disturbance of the system, manifested by restlessness, vigilance, typhoid delirium, an irritable pulse, etc. Apprehension of inducing cerebral trouble need not be felt, even when typhoid delirium be present; on the contrary, the good effect of the remedy is often manifested by a more rational condition.†

Pericarditis complicating pneumonia adds greatly to the gravity and danger. By perseverance in the judicious employment of supporting measures, we may hope to save lives which would otherwise have been lost. The writer of this paper has reported a case of pneumonia affecting the whole of the right lung, complicated with pericarditis, and eventuating in pulmonary abscess, in which recovery took place under vigorous and long-continued supporting treatment.‡ It may be added that timely and efficient support probably affords the best security against suppuration, whether in the form of abscess or purulent infiltration, and also against the occurrence of gangrene, which, happily, is extremely rare.

* See Analysis of Cases, in Am. Jour. of Med. Sciences, No. for Jan., 1861.

† More or less delirium is not very infrequent, even in cases of pneumonia which do not present other symptoms denoting the typhoid condition, and is not in itself necessarily a symptom of grave import.

‡ New Orleans Med. Reporter and Hospital Gazette, Vol. for 1860.

Pneumonia occurring as a complication of the continued or eruptive fevers, calls for soothing and supporting measures. Depressing measures, such as blood-letting, antimonial preparations, and purgatives, are very rarely, if ever, admissible under these circumstances.

A few words respecting the management of convalescence : There is little or no tendency to relapse. It must be extremely rare for a patient convalescing to be prostrated by a second attack. There is no need, therefore, of extreme precautions on this score. Experience shows that a solid, substantial diet, may be entered upon so soon as the patient is fairly on the road to recovery, and that the convalescence is more rapid than if the appetite be too much restrained. As a rule, ordinary wholesome, digestible articles of food may be allowed, when they are craved by the patient. Permitting the patient to begin to sit up when he feels a desire to do so, will be found not to retard recovery, but, on the other hand, apparently to hasten the progress of resolution.

Finally, with regard to pneumonia, as well as other diseases which may endanger life, let it be borne in mind that, although it is the most important end of medical practice to prevent a fatal termination, this does not comprehend the whole aim of the physician even in cases which recover. If he cannot cut short or abridge the duration of a disease, the next best result is to conduct it to a favorable issue. But this is not all. A rapid convalescence and a complete restoration to health are other important objects. And, in seeking to determine the relative merits of different methods of treating a disease, we are not to be guided solely by a comparison of the ratio of mortality, but by comparing the condition of patients during convalescence and after recovery. As regards the disease under consideration, although the substitution of a soothing and supporting treatment for the active measures for-

merly in vogue has doubtless diminished the rate of mortality, yet the improvement is equally shown in the rapidity and completeness with which health is regained.

In concluding this Report, the following propositions are submitted, embodying the practical views which have been presented respecting the management of pneumonia:

1. Uncomplicated pneumonia, limited to one lobe, in general, does not claim active treatment of any kind,—simple palliative remedies and hygienic measures being alone required.

2. Blood-letting and other antiphlogistic measures, with a view of subduing the inflammation, are not warranted by a sufficient probability of success, and, if resorted to for this purpose, will be likely in many cases to do harm.

3. Blood-letting is useful, not by a direct effect on the local affection, but indirectly by diminishing the intensity of the symptomatic febrile movement. It is admissible only in cases characterized by intensity of the febrile movement, when the affection is said to be sthenic, and only in the first stage of the affection.

4. In the cases to which blood-letting, if employed at all, should be restricted, the good effects may generally be obtained by saline purgatives, together with sedative remedies, such as the preparations of antimony and the veratrum viride.

5. The remedies just named are indicated only in the cases referred to. Given in cases indiscriminately, and carried to an injudicious extent, they may do much harm. They should be used with great circumspection, and rarely after the first stage of the disease. It is never advisable to push them so far as to occasion distressing nausea or vomiting, and enfeeble the heart's action.

6. Acute pain, depending on co-existing pleurisy, does not call for general blood-letting. Dry or wet cupping, fomentations, and stimulating applications to the chest are useful, and, if not effectual, opium may be given sufficiently to relieve this

symptom. The oiled muslin jacket, to be worn during the disease, is to be recommended.

7. The combination of intermitting fever and pneumonia calls for the prompt use of quinia in sufficient doses to arrest as speedily as possible the paroxysmal affection. Small or moderate doses of this remedy should be given in malarious regions, and to patients who are subject to intermitting fever, in order to prevent the development of intermitting fever and to obviate the unfavorable influence of the malarious cachexia. The remedy should be continued during the progress of the disease.

8. Antimonial preparations, mercury, blisters, and expectorants are not called for with a view to promote resolution of the pulmonary affection. There are not sufficient grounds for the belief that they hasten the removal of the exudation, and, if not useful, they must be injurious. There are no remedies to be employed specially for this object.

9. In severe cases of pneumonia, after the disease has advanced to the second stage, the most important object of treatment generally is to support the powers of life, to obviate the tendency to death by asthenia, and to carry the patient safely through the disease.

10. The supporting treatment consists of tonic remedies, alcoholic stimulants, and nutritious food. These are to be combined, in order to render the supporting treatment efficient.

11. Alcoholic stimulants may be given without fear of affecting unfavorably the local affection. They should be given so soon, at least, as the heart's action and other symptoms afford evidence of any failure of the vital powers. They are to be given more or less freely, according to the danger from asthenia, the degree of tolerance, and the apparent effect. They are not to be given as a matter of course, but only when indicated, and the quantity given is to be determined by the exercise of care and judgment.

12. A supporting diet embraces the animal essences, milk, and farinaceous articles. There is no risk in encouraging the patient to take nutritious food at any time during the progress of the disease; and there is reason to believe that danger from exhaustion may be forestalled by alimentation, together with the early employment of tonic remedies and alcoholic stimulants.

13. Purgatives, after the first stage, are not indicated, save when there is inconvenience from faecal accumulation, and then the mildest remedies which will effect the object are to be preferred.

14. Opium given, not to relieve pain or allay cough, but to tranquilize, promote sleep, and render the system more tolerant of the local affection, is a valuable remedy in pneumonia. It is indicated by unusual disturbance of the circulation and nervous system, and its good effect is shown by a marked improvement in all the symptoms. This remedy does not retard the resolution of the local affection. It conduces frequently to improvement as regards delirium.

15. Soothing and supporting measures are especially called for in cases of pneumonia distinguished as asthenic and typhoid, and when pneumonia occurs as a complication of the eruptive and continued fevers.

16. The occurrence of pericarditis as a complication is an additional reason for the supporting treatment.

17. In convalescence from pneumonia there is not much, if any, danger of relapse, and the recovery is more rapid if a substantial diet be allowed and the patient permitted early to sit up.

AUSTIN FLINT, M. D., *Chairman.*

A. CLARK, M. D.

JOHN T. METCALFE, M. D.

BENJ. W. M'CREADY, M. D.



