

# MEDICAL COMMUNICATIONS.

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## ARTICLE I.

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### DISSERTATION

## ON PNEUMONIA.

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*Read at the annual meeting, June 1st, 1808.*

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THE subject I have selected for consideration is that description of Fever denominated Inflammatory. I shall limit my remarks more especially to Pneumonia.

FEVER in various forms is one of the most frequent and destructive diseases, incident to the citizens of our country. According to some of the latest bills of mortality indeed, which have been published, phthisis pulmonalis commits the greatest havock in our populous cities. But if many of these cases originated, as I imagine they might have done, in neglected, or mal-treated pulmonic inflammation, they may with some propriety be referred to this disease, and the plurality in those statements be thus changed. The ravages of fever, however, there is reason

to believe, are less ascribable to the intrinsic nature of that class of diseases, than to contingent and remediable causes. But human life is short, diseases are various and complicated, remedies infinitely numerous and equivocal, and the experience and skill of most men are doomed, like themselves, to oblivion. Hence the utility of medical institutions, through the medium of which, the discoveries of individuals become the property of the public, and, conversely, the aggregate mass of facts and improvements is enjoyed by each individual as his own.

THE remote and proximate causes of fever have been subjects of endless research, conjecture and discussion. Scarcely any writer on fever can be found, who has not attempted to establish his own favourite theory. Even Sydenham, who seemed to reprobate the practice, could scarcely inscribe a page of historical facts, without the aid of an explanatory hypothesis. But not to enter upon a discussion of this subject, I would just observe, that one of the most obvious causes of fever seems to be connected with, or dependent upon temperature; but not of any absolute or specific grade. Cold, as a debilitating power upon the human organization, is relative to the state of the system as it respects predisposition, and relative to preceding temperature. A man under the influence of indirect debility from intemperance, or the stimulus of high temperature; or of direct debility from

excessive watching or fatigue, is more susceptible of morbid impression from cold, than one whose excitability has been maintained by temperate living, moderate temperature and gentle exercise. Soldiers, exposed in autumn to the cold air of their tents by night, and to the heat of the sun by day, are prone to severe coughs and colds. To them the vicissitudes of day and night are greater, and more abrupt, than to those who inhabit houses. Individuals, who pass from the high latitudes to a vertical sun and a rarified atmosphere, most dreadfully suffer from the change : while the stationary inhabitants of the torrid zone shall enjoy health and comparative vigour. Persons accustomed to the air of a warm room and the contact of thick clothing, shrink with horror under the debilitating effects of a cold atmosphere, and light apparel. While, on the contrary, men of robust habits, enured to the endurance of cold, and slender garments, soon sicken on being confined to hot apartments.

Do these considerations afford us a clue to the remote cause of fever ? The transition, then, from the remote to the proximate is easy. Professional observation and the sensations of the sick unite in impressing upon us the idea of an imparity of vascular action, and a lost balance of the vascular contents. The vessels on the surface of the body suffer torpor and inanition. The heart and the great trunks of the blood-vessels become distended, surcharged and op-

pressed ; and the lungs, the stomach, the liver and most of the other viscera, suffer repletion and enlargement. A plethoric and gorged state of these organs becomes a stimulus to inordinate action ; inflammation occurs ; and fever, of one denomination or another, modified by accidental or constitutional predisposition, ensues, as one set of organs or another, shall be in a condition least to resist the pressure of redundance. The brain meanwhile is not exempt from suffering. This viscus, though incapable of intumescence, must suffer the consequences of pressure from the derangement of equilibrium in the circulations, from a preternatural determination of blood to its vessels, or from the remora of an accumulated mass in the vena cava to its reflux blood, as well as from its sympathy with other suffering organs. Do the phenomena of fever, and the effects of remedies, serve to support and illustrate these ideas of the causes of this affection ? I am aware that many others have been assigned as the proximate causes of fever ; among which are moisture, the matter of vegetable nutrition, and the gaseous productions of animal and vegetable putrefaction.

HAPPILY for us, however, if the causes of disease have not been specifically detected and demonstrated, yet many causes of error have been exposed, and many of the laws of the animal economy are brought within our cognizance. Great progress has been made in discriminating

the pathognomonics of diseases; the indications of cure have been ascertained, and the appropriate remedies discovered. As it respects the subject under consideration, whatever theoretical notions may be entertained by different individuals, all agree that the contemporaneous occurrence of certain phenomena constitutes that state of disease denominated fever.

EVERY disease is characterized by a combination of distinctive features. If various modifications of morbid action sometimes occur, they are referable to a difference in the force or activity of the cause, to occasional susceptibility of diseased action, or idiosyncrasy of habit which art can never develope. It is the part of the physician to distinguish the essential characteristics of disease from anomalous and contingent concomitants, and assign to each its respective degree of importance.

THE best explication of fever, general definitions being either illusive or imperfect, is its history; and the best substitute for THIS, is a specific enumeration of its symptoms. But on this occasion it would be superfluous to recite in detail the great variety of pyrexial symptoms. Lassitude, loss of appetite, rigours, or slight sense of cold, succeeded by heat, prostration or reduction of muscular strength, thirst, head-ach, and interrupted secretions and excretions, are among the most prominent. But to designate thoracic inflammation other signs are superadded. Pain

in some part of the thorax, from the most acute and pungent, to that which is obtuse and scarcely perceptible—sometimes fixed, at others vagrant. A sense of fulness at the chest, difficult respiration, cough with and sometimes without expectoration; the matter expectorated consisting usually of a viscid glairy matter, and marked or intermixed with blood. Palpitation of the heart, anxiety at the præcordia, sense of suffocation upon a change of position, and lipothymia in any other than a supine posture. The four last mentioned symptoms I consider as resulting from an inflammation of the heart or pericardium. Under different grades and modifications of the general diagnostics, the pulse varies from full, hard and frequent, to slow, obscure and small.

In the high grades of pneumonic inflammation, few physicians will hesitate as to the means of relief. Excessive excitement in vital organs demands the most prompt and powerful remedies. Delay is often ruinous. In addition to the first impression of excitement, the parts affected speedily acquire a habit of morbid action; a destruction or change of organic structure ensues, and the disease sets at defiance every effort of art. To obviate this fatal result, venesection is the leading, the paramount remedy. But to insure its salutary and decisive effects, its employment should be seasonable and copious.

**PULMONARY** inflammation, however, is not always distinctly characterised. Its advances are frequently insidious. Respiration may be embarrassed, the pain, heat and thirst may be considerable, but the pulse small, oppressed and rapid, somewhat resembling the pulse in typhus. But this semblance of typhoid irritation may conceal an excess of excitement ; and I am apprehensive that this oppressed state of arterial action, conceived to occur from defect of stimulus, has proved a fruitful and fatal source of error. But venesection in such cases is indispensable. The almost instantaneous emergence of the pulse, and liberation of the action of the lungs, solves the ambiguity of arterial action. Phlebotomy as a remedy in pneumonia, is one of the most ancient and incontestable, borne on the records of medical history. Physicians, in former times most eminent for talents, learning and experience, have given the fullest testimony of its efficacy ; and with their attestations the experience of the present day is in perfect unison. To determine the frequency of repeating the operation of bloodletting, must depend on the circumstances of each particular case. The exigence of the case must decide the time when the lancet must be used, and the age, constitution and habits of the patient will have an influence in determining the amount of blood to be taken. But so long as the distressing symptoms continue, and the sthenic action of the heart and arteries is sup-

ported, so long should venesection at proper intervals be repeated. For myself I can aver, that I have never known an instance of pneumonia proving fatal, in which timely and duly repeated bleeding was resorted to ; that I have never seen an instance in which depleting by the lancet became injurious ; but that on the other hand, I have witnessed some unhappy instances in which its omission, or partial employment, was followed with mortal effects.

ALL sthenic inflammatory affections of the thorax are accompanied with congestion, increased secretion and extravasation. Increased organic action implies an increase of sensibility, an accelerated impetus to the fluids, and an increased, as well as an enlarged vascularity. The blood vessels being enlarged, or admission yielded to a greater volume of blood, the red globules having access to, are impacted in the serous capillary vessels, and become a new stimulus, and the cause of a new train of action. Such is the state of the vascular system. While in the cellular texture, on the surfaces of the bronchial ramifications and air vesicles, and of the cavities of the thorax, and sometimes of the pericardium, quantities of lymph and serum are deposited and accumulated beyond the power of absorption by the oppressed and torpid lymphatics. If the symptoms of pneumonia do not warrant this rationale of congestion, secretion and extravasation, the evidence of facts will be deemed

conclusive. The dissections of Morgagni abound with instruction on this point. In his inestimable work on "*The seats and causes of Diseases,*" numerous dissections are given, in his very minute and detailed form, of cases, in which *the substance of the lungs was enlarged, inflamed, hard, ulcerated, resembling liver and boiled liver; in which the air vesicles were stuffed with a white frothy matter, with matter like pus, with purulent matter, and with bloody matter; in which there were adhesions of the lungs and pleura, of the lungs and pericardium, and of the pericardium and the heart; in which serum, bloody serum, and purulent serum, were found in the cavities of the thorax and pericardium.* Such are a few only of the appearances after death in consequence of pulmonary inflammation mentioned by Morgagni. My own professional circle has furnished me with repeated opportunities of inspecting subjects who had died of a similar affection, and in which the morbid appearances resembled those recorded by this writer. I examined a subject a few days since, who, after having suffered in the course of five years, repeated attacks of pneumonia, died of phthisis, in which there was a greater enlargement of the cellular substance between the sternum, ribs and intercostal muscles, on the one part, and the pleura, on the other, than I had ever before observed; or than is mentioned in the above named work—the cellular intumescence being the thickness of a man's finger.

The anterior portion of the pericardium adhered firmly to the pleura, and another portion of it was attached to the lungs. The lungs likewise adhered to the pleura through the whole extent of both lobes. Besides which the air vesicles of the lungs were almost obliterated from an enlargement of the parenchymatous structure. The lungs were of a very dark liver colour, and their hardness was similar to that of an indurated gland. The cavities of the thorax and pericardium contained a pound and an half of serum.

SUCH are some of the evidences of congestion, increased secretion, and extravasation. They prove the derangement of organic structure by inflammation, and evince the necessity of copious bleeding in the early stage of disease, not only to extinguish inflammation, but as the only prophylactic of its terrible consequences. I have no conception of general plethora, as a cause of pneumonia. But that a certain degree of fulness of the blood-vessels, or a certain condition of these vessels connected with, or depending upon, fulness, contributes to the support of local inflammatory action, there can exist no reasonable doubt. It must have occurred to the observation of every experienced physician, that the reduction of violent excitement is effected most efficaciously, and with greater celerity, by copious bloodletting, than by any other means. The exigencies of high sthenic diathesis require an immediate subduction of stimulus. Remo-

dies, the operation of which is gradual and circuitous, are inadequate to the subversion of disease violent in its onset and rapid in its progress. The arteries, in a manner the most direct and summary, must be exonerated of their plenitude. When this object is effected, and the further augmentation of parts is arrested, there being no further demand for the lancet, measures should be adopted for dissipating extravasation, and reducing the enlargement of organic structure. To enable us to fulfil these intentions, nature has been liberal in her provisions.

IN the animal economy the absorbent system is an important and efficient constituent. This system is endued with singular powers, and energy of action, although the laws by which its functions are regulated, have eluded the observation of physiology. Besides being the great medium of nutrition, health and life are dependent on its co-operation with the vascular and nervous powers. Although there be something inexplicable in the absorption, we must consider it as a provision of nature, among other purposes, for the removal, not only of extravasated fluids, but of preternatural and diseased solids. Nor is this provision more wonderful than that the whole animal organization, in a state of soundness, should be subject to the laws of perpetual waste and regeneration. Whether, during the progress of inflammation, the accumulation of fluids in certain cavities, and the increase of vascularity,

be owing to a suspended or diminished action of the lymphatics, or to an action of the arteries and their secretory branches transcending that of the lymphatics, or partly to each of these causes, we may expect that when the stimulus of disease shall have been withdrawn, and sthenic action subdued, the lymphatics will resume their customary course of action ; perhaps with increased vigour, proportionate to their late torpitude and inaction. This very cursory view of the absorbent system, leads us to appreciate its importance in the animal economy, and to direct our attention to its powers in the cure of diseases.

I now proceed to notice some other remedies in the therapeutical management of pneumonia, in addition to venesection. I would, however, previously remark, that the demand for other prescriptions will depend on the use that has been previously made of the lancet. If it has been seasonable and liberal, there can be but slight congestion and extravasion, and consequently little difficulty of breathing, slight cough, and inconsiderable expectoration. But we sometimes meet pneumonia in its most menacing forms, when all the resources of art will be in requisition, and other remedies co-operative with venesection, though less subductive of morbid stimulus, must be employed.

**CATHARTICS**, by depleting the intestines, lessen pressure upon the diseased organs of the thorax. They diminish arterial action, and pro-

mote lymphatic absorption. Preceded by venesection, they act with greater facility and effect. The well known powers of mercury to lessen visceral inflammation recommend the sub-muriate of this metal, not only as an alterative, but as a purgative. I commonly prescribe it from six to twelve grains soon after bleeding, with purified nitre, the super-tartrate of potass, or the acetated vegetable alkali, to be succeeded in two or three hours by an ounce of the sulphate of soda and manna, or senna and manna, the castor oil, or any other gentle cathartic. The sub-muriate of mercury is not a drastic purge, but it is, in the form mentioned, commonly certain. Besides, this medicine promotes the secretions and absorption. Hence its use as alterative. To these remedies, applicable to the inflammatory state of fever, must be added rigid abstinence from stimulant food and drinks, a free use of mucilaginous and sub-acid diluents, unless when acids provoke coughing, and an occasional use of oleaginous preparations.

VESICATION is another important remedy in pneumonia. Medical opinions on this article have been various, some having advocated, and others opposed, its use. The visible effects of vesication are unquestionably produced by the stimulant property of cantharides. But stimuli applied near the seat of pain and disease in some other inflammatory affections, or to a part of the surface sympathizing with the diseased part, tend to lessen and suspend the action of morbid stimu-

lus, and deplete those vessels which had been gorged with fluids by excessive action. I have not myself observed the stimulus of cantharides to communicate to the moving powers, generally, an increase of morbid excitement. On the contrary, the pulse has been rendered less frequent, the embarrassment in respiration, the pain and sense of fulness at the chest, have been sensibly relieved, and expectoration rendered more easy. "*The relief obtained by them in this way,*" as is observed by an author of our own country, "*more than balances their stimulus upon the whole system.*" It is, however, with blistering, as with other secondary remedies, that its use may be precluded by plentiful bleeding. As soon as by this operation, the pulse is reduced, the pain abated, and the breathing rendered tolerably easy, (which I presume ought to be effected at the first visit, especially if the patient should reside at a distance from his physician), I am in the habit of directing free vesication as near the pained part as possible. Even if there be no fixed pain, but a general sense of fulness of the chest, or stricture, and difficulty of making a full inflation of the lungs, I order the vesicatory between the scapulæ, or upon the anterior part of the thorax. This is a point to which I pay the most scrupulous attention. In confirmation of my own sense of the utility of extensive vesication, it has rarely happened that the testimony of the patient has been wanting to the same result.

BESIDES the use of cantharides already mentioned, they are beneficial in another stage of the disease. When the excitability of the system has been diminished by disease and depletion, the action of the heart and arteries has become languid, and the vessels in the extremities are in a state of torpor and debility, the stimulus of cantharides is highly useful, as rubefacients. I would, however, observe here, that the stimulus of horse-radish leaves, and sinapisms of mustard-seed, where the intention is to restore and support the vigour of the circulation, is preferable to that of cantharides. The stimulus of the two former is more gentle, but more permanent.

In almost every case where the advice of a physician has been seasonably invoked, and the remedies already recognized have been duly employed, the ardent state of disease will have terminated by the third or fifth day, and the patient be assuming the convalescent state. But it frequently happens that before any remedy is interposed, the disease has made considerable progress. In these cases no depletion, no evacuations, nor counter stimuli, can obviate cough and expectoration. After such evacuations, therefore, as the advanced state of the disease, and the impaired condition of the excitability will justify, it is of the utmost importance to encourage expectoration and absorption, and to determine the vascular action to the cutaneous surface. Expectoration being proportionate to the degree of mor-

**bid excitement, and the secretions into the bronchial system, in many cases becomes difficult and laborious, and requires much management. A stimulant course becomes necessary. In adopting which we are not unfrequently obliged to govern ourselves by the peculiar antipathies of the patient. Among the class of expectorants, the most stimulant and efficacious are the squills, variously prepared, Rad. Seneg. Ipecacuanha in substance or tincture, and the decoction of Verbena and Bupleurum. When in an advanced stage of pneumonia the lungs are oppressed with mucus, sthenic action has subsided, and great debility induced, small draughts of cider, wine, or of ardent spirit duly diluted, have an admirable effect in promoting expectoration. With a view to the same intention, opium and its preparation may be prescribed with the most happy effects. Small doses of this medicine may be introduced immediately after the subduction of morbid stimulus, and repeated as the irritable state of the lungs may indicate, to great advantage. If the doses should be so large as eventually to produce debility by over excitement, it will prove injurious. In the stage of pneumonia now under consideration, the skin, in some cases, becomes dry and hot, the cough fruitless and constant, and the patient restless. Under these circumstances, a pill containing from one to two grains of opium, and an equal quantity of sub. mur. of Merc. and Ipecac. given at six, and**

another of the same kind, if necessary, repeated at 9 o'clock insure a moist and temperate skin, refreshing sleep, an abatement of cough, and the next morning, a free expectoration.

DURING the exhibition of this series of prescriptions, and till cough and expectoration have terminated, I have derived great satisfaction from the use of digitalis. Waving a discussion of the question whether the digitalis be stimulant or sedative, I shall merely state that for several years past I have been in the habit of using this powerful vegetable. Apprehensive that a medicine of such activity could never be given with impunity in a disease to which it was ill-adapted, and being destitute of the requisite data to warrant its prescription, I have hitherto declined its exhibition in the inflammatory period of pneumonia. When this stage had passed I have used it both for children and for adults; and have found it highly efficacious in diminishing the frequency of pulse, in abating cough and lessening expectoration. In numerous, and in some very impressive instances, where the cough was urgent, the pulse rapid, heat considerable, with morning rigours, nocturnal sweats, copious expectoration of purulent or puriform matter, and indeed every symptom of incipient phthisis, the digitalis, given and persevered in, twice or thrice in a day, in doses as large as the stomach and head of the patient would bear, has happily

relieved these complaints, and perfectly reinstated the patient's health. As on these occasions I have seldom been able to satisfy myself that any of the secretions or excretions were increased, I have ascribed its effects to its action on the lymphatics, and a disposition of the absorbed matter at present inexplicable. Does a chemical change take place in the matter constituting congestion previously to its absorption by the lymphatics? And if so, may not this matter be thus reconverted to nutriment for the general system, to supply the waste of previous disease? On this article, I would only subjoin, that in cases where the administration of digitalis has been most decidedly efficacious, an impaired appetite, loathing of food, nausea and giddiness, have either separately or jointly occurred.

PERHAPS there is no disease after which the appetite more speedily returns than pneumonia. A crisis in this fever is generally distinctly marked. After which there is less occasion for medicine, than for caution and prudence. In the state of incipient convalescence it is particularly necessary that the stimulus of food should be adapted to the existing state of excitability. Errors in this particular are the common source of relapses.

I HAVE hitherto been silent as to emetics. They have some claim to consideration as a collateral, though not an appropriate remedy in the cure of pneumonia. When the stomach is

surcharged with acrid matter, whether it be bile, or the vitiated product of undigested aliment, and vomiting should supervene, an emetic of Ipecacuanha may be highly proper. It will not only relieve the patient of much present distress, but obviate hiccup, which might otherwise be pernicious and alarming. Within the last month, I was called to two female patients, who had, two days previously to my visiting them, been seized with pneumonia. Each of them had taken a powerful antimonial emetic, without effect. I bled both freely, and in twenty-four hours they recovered. In pneumonia, during the first onset, emetics of the antimonial kind exhaust the vital energy, without impairing the force of morbid action.

I CANNOT feel satisfied to close this sketch without reiterating my ideas of the necessity of a liberal employment of the lancet in diseases of sthenic diathesis, not only at their first attack, but so long as this diathesis shall continue. Indeed, in its powers of conquering violent pneumonic inflammation at its commencement, of obviating congestion, adhesions and ulceration, the lancet defies competition and admits of no substitute.

THE END.