LECTURES ON FEVERS:

BEING

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COMPRISING

A DESCRIPTION OF THE DISTINCTIVE
CHARACTERS, PATHOLOGY, AND
TREATMENT

OF

THE SEVERAL FORMS

OF

CONTINUED FEVER.

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LECTURE XI.

TREATMENT OF ENTERIC FEVER.

Special treatment required—management of the sick chamber in fevers—treatment of the milder forms of enteric fever—of the more severe—the question of bloodletting considered—treatment of the intestinal affection—diarrhœa—hæmorrhage from the bowels—tympanitis—dietetic management—treatment of the advanced period—wine and stimulants—treatment of secondary affections—of the brain—of laryngeal angina—of the pulmonary organs—of peritonitis and intestinal perforation.

THOUGH the pathology of this disease has been minutely investigated, its therapeutics, or the principles on which its treatment should be conducted, have not received corresponding attention. This is to be ascribed, in some measure, to the circumstance that many, especially of the Cullenian school, still hesitate to accept, if they do not altogether deny, the distinctions between the different forms of continued fever, and consequently apply indiscriminately the same therapeutic indications to all. It must be obvious, however, that the treatment of each form differs in essential particulars.

Before deciding on the measures to be adopted in a given case,—of whatever type,—several circumstances should be kept in view: for example, its stage or duration, its mildness or gravity; the existence of secondary lesions; the prevailing or epidemic constitution—that is, the varying but unknown circumstances which influence acute diseases in general—and, lastly, the *individuality* of the patient, if I may use the expression, to include the age, habits, occupation and condition of life, previous state of health, with such collateral information as can be obtained.

And before I proceed to discuss the principles of treatment, let me say a few words on the management of the sick chamber—a point of the greatest importance, though often overlooked, and closely connected, not only with the comfort of the invalid, but with the issue of the case.

The first consideration should be the selection of a properly qualified nurse. The value of the services of one accustomed to fever cases can scarcely be over-estimated, as there are numerous details that must be left to her discretion, and which can only be satisfactorily undertaken by a person of judgment and experience, and who has been trained for such duties. In severe cases, a nurse for day and another for night duty are indispensable.

We shall presume that the apartment is as large as is necessary for the requirements of the patient. The ventilation as well as the temperature of the room should be attended to.

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The former may be effected, not by keeping the window constantly open, often regardless of season or weather, but by allowing a current of fresh air to pass through the room occasionally, and then closing it, while the temperature should be kept as near 60° as may be, and ought never to exceed 65°, though sometimes in the summer and autumn months it may be difficult to obtain this limited range.

The bed on which the patient is placed should be of moderate size, and furnished with a soft hair mattress; and if the room be of sufficient dimensions to contain two small beds, the comfort of the invalid will be promoted by occupying one during the day and the other in the night. This plan is indispensable in the more severe cases, and more especially so when the evacuations are passed unconsciously. The room should be kept perfectly quiet, and only the attending nurse and an occasional visitor, when sanctioned by the medical attendant, allowed to have access, and the visits of such persons should be short.

For the first week of the fever, nothing but the lightest farinaceous food should be given, unless by the direction of the medical attendant. Fruits should be avoided altogether, or used very sparingly, and thirst may be allayed by any agreeable drinks—whey, Seltzer water, rice water, lemonade, or apple tea, which in summer may be iced.

Presuming, then, that provision has been made for the due administration of our remedies, and that the form and stage of the fever, with the individual circumstances of the patient, have been ascertained, we shall suppose that we have to deal with enteric fever of a mild character and in the early stage. I need scarcely observe that the patient should be confined to bed, since this part of the management is generally consonant with the feelings, though sometimes, under the impression that the disease is of a trifling nature, an effort is made to keep about until the increasing prostration compels the patient to remain at rest.

Emetics are occasionally employed, but this class of remedies should be given only at the very beginning of the disease, and when there is evidence of the presence of acrid matters in the stomach. Under such circumstances the exhibition of an emetic is often followed by much relief, though it may not cut short the fever. But the opportunities of prescribing emetics are comparatively rare, as medical aid is seldom sought at the very beginning of the disease, to which period their administration should be restricted. As to the supposed benefit from the shock given to the system, or the determination to the skin or other organs induced by the act of vomiting, I must confess my doubts, and I should hesitate to adopt or sanction their use on such grounds.

In regard to aperients, I may observe that they, too, should not be prescribed indiscriminately in enteric fever. The bowels generally act spontaneously, and if they do not, the mildest aperients should be selected, merely with the view of relieving the system of any accidental accumulation. But let me caution the inexperienced in the management of this fever against the calomel and black draught system, which may do incalculable injury by irritating the bowels and increasing the local intestinal disease.

No dependence should be placed on salines, as they are called; but, if something must be done to amuse the patient, a julep of the citrate of potash or ammonia is very grateful, and may tend to allay thirst and promote determination to the skin. The German Seltzer water is also a very grateful, harmless saline. The dietetic management should be restricted to farinaceous matters, with the addition of beef-tea or chicken broth.

It may be inquired, what is the condition of Peyer's glands in these mild cases of enteric fever? They are probably simply enlarged from the deposit of typhous matter, but the subsequent changes are arrested, and they probably return to their natural state as the general febrile movement subsides and convalescence takes place.

In mild cases, therefore, medical interference should be restricted to the management of the sick chamber, enjoining mental and bodily repose, regulating, if necessary, the alvine excretions, and restricting the diet to simple farinaceous matters and weak animal broth. If it be deemed necessary to prescribe salines, an occasional dose of an alkaline citrate may be interposed.

In by far the larger proportion of cases, however, enteric fever assumes a much more severe character. There is more violent febrile disturbance from the beginning, indicated by the more frequent and severe rigors, and the more pungent and enduring heat of skin; while the condition of the vascular, nervous, and gastric systems shows that the poison has acted

with considerable intensity. The fever, in short, is of a more serious character, and consequently requires more decided measures, modified, of course, according to the circumstances each individual case presents. If there be much general excitement, more especially throbbing headache, flushing, restlessness, and perhaps delirium, the vascular fulness must be reduced. This may be accomplished by small doses of antimony, repeated every three or four hours, shaving the head, and applying a spirit lotion to the scalp. Should this plan not succeed in combating the cerebral excitement, or should symptoms in other organs arise to indicate that the struggle is to be severe, the question of bloodletting is forced on our consideration. It would be unprofitable to discuss the various grounds on which bloodletting has been employed in the treatment of fevers. I would rather consider the subject as one to be determined by experience and observation; and it is to be regretted that in our own country the effect of bloodletting as regards enteric fever has scarcely been put to the test, from this remedy having been employed indiscriminately, without reference to the type or form an epidemic may have assumed. On the European continent and in the United States, where enteric fever is endemic, we have the recorded opinions of practical physicians; and, as might be anticipated, there is much difference in their views as to its utility, the remedy being extolled by some, condemned by others, and in the present day, if not entirely abandoned, adopted under very special circumstances only.

If we refer to Louis, we find that he abstracted blood in nearly all his cases, but restricted the practice to the early stage of the disease, and repeated the bloodletting according to the severity of the symptoms and the powers of the patient. In his opinion it was useful, within those limits, in shortening the duration and mitigating the severity of the fever; but in mild cases, even in the early stage, as well as in the more severe, after the second week, he was satisfied that the abstraction of blood was of doubtful efficacy, if not positively hurtful.

Andral does not mention the practice with favour. He prescribed it in seventy-four cases, of whom thirty-five—nearly one half—died; and of this number, in sixteen only was there evident amendment in the symptoms; while in sixty-four, the disease appeared to be even somewhat aggravated by the loss of blood: but it would have been more satisfactory had the description of the symptoms for which the bleedings were employed, and especially the stage of the fever, been detailed.

Chomel, who was a thoroughly practical physician, thought, on the other hand, even in mild cases, a single moderate bleeding at the commencement beneficial in relieving the more urgent symptoms, shortening the duration of the fever, and preventing local affections. In the more severe, in which there was unusual general excitement, and especially if there were serious affection of some organ, he advised the venesection to be repeated; but he enjoined caution even under such circumstances, and warned the practitioner that a smaller amount of blood should be abstracted than in primary inflammation.

The great advocate of bloodletting in this disease, however, is Bouillaud. This distinguished Parisian professor, in his "Philosophie Médicale," announced that he had discovered an infallible mode of treating all acute diseases, including fevers, by copious bloodletting. He prescribed five or six bleedings in succession, to the extent of twelve or sixteen ounces at a time, as much being often abstracted by cupping or leeching in the intervals; nor were these heroic measures limited to the early stage, but adopted even in the second week of the fever. This bold treatment gave rise soon afterwards to much discussion in the Parisian medical circles, which was carried on with no little warmth, and led to a rigid examination of the grounds on which its boasted success was founded. The investigation was instituted by Louis, whose treatment had been placed in unfavourable contrast, and he had little difficulty in exposing the fallacy of the statistics of Bouillaud, as well as the diagnostic errors into which he had fallen.

In the United States, where, in consequence of enteric fever being endemic, ample scope is afforded for observing its pathology and treatment, it would appear that the practice of indiscriminate bleeding does not find favour, its employment being restricted to special circumstances; as, for example, when the febrile symptoms run high in young and vigorous subjects, but more especially if there be severe headache, flushing, throbbing in the cerebral vessels, or acute delirium. For such symptoms the physicians of the United States do not hesitate to prescribe either general or local bloodletting, according to the emergency.

I have not brought these opinions before you with the object

of recommending bloodletting in the treatment of enteric fever as a general rule. On comparing carefully the results of cases treated by others with my own experience, I am satisfied that in mild cases, loss of blood is uncalled for, and, if practised, tends only to lower the powers, and retard convalescence; that in cases of severity, and especially when the symptoms pursue a rapid downward course, indicated by marked prostration, compressible pulse, low delirium, or exhausting diarrhoea, every ounce of blood abstracted diminishes the chance of recovery. When the fever assumes this grave aspect, there are influences at work, the nature and agency of which are unascertained, but they produce a depressed state of the vital powers, which renders evacuations of any kind, and especially bloodletting, hazardous in the extreme.

But intermediate cases are of not unfrequent occurrence, in which, in addition to the intestinal affection, there is unusual general excitement, or it may be that some organ important to life is implicated. Under such circumstances, I have observed marked relief after the loss of a few ounces of blood, (rarely exceeding ten,) if taken in the early stage of the fever; and in the comparatively few instances in which of late years I have ventured on this remedy, it has been apparent that, besides the improved feeling admitted by the patient, the duration of the fever was shortened. In doubtful cases, in which the propriety of bloodletting may be questionable, antimonial preparations are of great service in subduing the excitement without the hazard of lowering unduly the powers of the patient.

We have seen that the poison which induces enteric fever has a specific action on the intestinal glands (Peyer's patches), which undergo the changes explained in a former lecture. This intestinal affection is one of the earliest phenomena, and accounts for the diarrhoea which is so commonly present from the commencement of this fever.

I must, however, protest against the practice occasionally adopted of treating the intestinal affection by local abstractions of blood, as if it were a local phlegmasia—a practice which, without improving the intestinal disease, tends only to impair the patient's strength. The typhous deposit in the intestinal glands, not strictly secondary, bears the same relation to the fever as the variolous eruption does to small-pox, or the morbillous rash to measles. Should, however, the follicular disease produce great irritation, or, perhaps, inflammation of the mucous membrane, or should the morbid action spread deeper and implicate the peritoneum, no time should be lost in applying leeches over the region of the cæcum, followed by warm poulticing, and a combination of mercury with chalk and Dover's powder, at short intervals.

In the management of the diarrhoea, let me offer you a caution against the exhibition of aperients, which some French physicians—even Louis himself—have recommended.

In the very commencement, and particularly if there be uncertainty as to the state of the bowels, it may be well to exhibit a mild laxative, such as castor oil, magnesia, phosphate of soda, or rhubarb; and should the selected aperient act unduly, an aromatic draught, with a few drops of laudanum, may be given to check the irritation.

If the diarrhoea be moderate, it should not be interfered with, but treated simply by bland fluids, such as thin barley-water (made by infusion), rice-water, arrowroot, weak animal broth being at the same time allowed.

If it be necessary for effect to prescribe, the almond mixture, or a mixture containing spermaceti, with or without a few drops of laudanum, or compound tincture of camphor, may be given.

When the evacuations are frequent (more than three or four in twenty-four hours), the powers of the patient become enfeebled, not only by the drain on the system, but the very exertion in getting out of bed tells on the patient's strength. It becomes, therefore, necessary to check this symptom. Sometimes a few drops (five to ten) of laudanum, or fifteen to twenty of the compound tincture of camphor, in any agreeable vehicle, answers very well, and may be repeated according to circumstances. The local exhibition of opium by an enema, containing ten to fifteen drops of laudanum in three or four ounces of barley-water, or thin starch-gruel, and repeated according to circumstances, is often preferable, if the patient will submit to it.

But if, notwithstanding the use of opiates in the way mentioned, the diarrhoea persist, we must have recourse to other remedies of the astringent kind, either alone, or combined with opium. We may select from the mineral or vegetable kingdom, the former affording, however, the best and most suitable.

The mineral acids—the diluted sulphuric, nitric, or phos-

phoric—combined with laudanum in the proportion of fifteen minims of the one (the acid) to three, four, or five of the other, (the laudanum,) are well suited, and may be taken at longer or shorter intervals, according to circumstances.

The diacetate or sugar of lead has considerable power over the intestinal affection. I am in the habit of giving it, even in the early stage, every six or eight hours, under the impression, from its power over inflammation of mucous surfaces, that it is capable, not only of controlling the diarrhoea, but of keeping in check the ulcerative process in Peyer's patches. It may be given alone in three-grain doses, either in pill or solution, or in combination with small doses of the solution of acetate of morphia, after every evacuation. The solution of acetate of morphia, made by dissolving six grains of the alkaloid in two drachms of spirit of wine and six of distilled water, should be used in preference to laudanum, with which sugar of lead does not appear to harmonize.

The sulphate of copper in combination with opium is a valuable remedy. Indeed I do not know one better suited, especially in protracted cases. A pill, containing an eighth of a grain of this salt, and the same quantity of solid opium, administered every four, six, or eight hours, will seldom fail to check the diarrhoea, while there is reason to suppose that, like sugar of lead, it exerts a beneficial influence on the intestinal affection.

From the nitrate of silver I have also seen excellent effects. It may be given in quarter-grain doses, with or without opium, every six hours, or after every liquid evacuation. The possibility of its darkening the skin is, however, an objection to its employment urged by some practitioners; but though I have prescribed it extensively in this intestinal affection, and continued its use for a considerable time, I have never witnessed any approach to discoloration, nor do I think, in the small doses recommended, there is much risk of it.

Alum is another remedy of the astringent class to be relied on, the best mode of administering it being in the form of alum whey, made by throwing one drachm of alum in powder into a pint of boiling milk, the whey being separated from the coagulum by straining. Of this two tablespoonfuls may be given at intervals of three or four hours, or after every liquid evacuation.

Of remedies from the vegetable kingdom, I may mention krameria, logwood, and catechu, which, like the mineral astringents, are most efficacious when combined with opium. I may, however, remark that, on the whole, I have seen most permanent benefit from sugar of lead, sulphate of copper, and nitrate of silver, in combination with opium, either of which, when judiciously managed, will do all that an individual remedy can effect in controlling the diarrhoea.

Hæmorrhage from the bowels is a pretty certain indication of intestinal ulceration, the source of the blood being principally from the ulcerated surface. I have often been surprised at the large quantity discharged without the patient being materially lowered. This happens, however, only in robust subjects, and in such circumstances, we must not hastily interfere with this symptom. But those who have less constitutional vigour are generally much enfeebled by even a moderate discharge of blood from the bowels, especially if it take place in the latter stage of the fever, so that in such cases it is necessary to adopt measures to arrest the hæmorrhage.

The most perfect quietude should be enjoined, cold or iced drinks given, the abdomen covered with cloths dipped in cold vinegar and water, and sugar of lead, in five-grain doses, with the solution of acetate of morphia, or a combination of gallic acid with opium, given at short intervals. When the hæmorrhage is moderate, the starch-and-liquorice enema will often alone control it.

I have prescribed occasionally, with benefit, a nostrum called Ruspini's tincture. It consists principally, I believe, of gallic acid in some colouring fluid. The oil of turpentine, in doses of from twenty to thirty drops in emulsion, is also a good remedy, taking care to withdraw it if it produce irritation of the urinary organs. Should the powers be much reduced by the loss of blood, wine, brandy, and other cordials, are, in addition to the remedies pointed out, to be administered; while the nervous system is calmed by opium or its alkaloids.

Besides internal remedies, various local applications often afford material assistance in the treatment of the intestinal affection. Much benefit is often derived from warm applications—either a large, thin linseed poultice, or, what is a more agreeable fomentation, two folds of lint, sufficiently large to cover the belly, dipped in warm water and applied quite hot, the moistened lint being protected by an oil-silk covering to prevent evaporation. This may be renewed from time to time, according to the feelings of the patient, and

is always grateful and soothing. If the tympanitic distension be considerable,—and there is more or less in every case,—oil of turpentine may be added to the warm poultice or moistened lint, and kept on as long as it can be borne, the tolerance of this stinging application varying with the sensibility of the skin. I am in the habit of keeping the right iliac region tender by the turpentine, when its more extended application over the abdomen is either unnecessary or objected to by the patient. If it produce much pain and irritation of the skin, it should be used occasionally only—indeed, few patients can bear it long at a time. If the odour of the turpentine be an objection, the compound camphor liniment may be substituted.

The tympanitic distension of the belly is often distressing. The mucous membrane of the stomach and bowels has the property of secreting air in abundance during health, and when it takes on a congestive or inflammatory action, this secretion is increased, and hence we find tympanitis an almost invariable accompaniment of enteric fever, more particularly in the middle and latter stages. It is sometimes so great as seriously to embarrass the breathing by impeding the descent of the diaphragm; and though the secreted air is accumulated in great abundance in the colon, it is seldom passed per anum. This symptom, if it occur early in the fever, and the powers of the patient are not much impaired, is best treated by the application of leeches to the abdomen, followed by emollient applications and the internal exhibition of the diacetate of lead. But should local bloodletting be inadmissible, turpentine stupes may be substituted, while the lead is given in suitable doses internally. But it is often necessary, from the amount of distension, to adopt some mechanical expedients to get rid of the accumulated air, such as the introduction into the rectum of a flexible tube, or catheter of the largest size, or the common œsophagus tube of the stomach pump, properly secured, so as to prevent it slipping into the bowel. But before having recourse to mechanical means, I am in the habit of prescribing a fetid enema, consisting of half an ounce or more of the tincture of assafetida in a pint of common gruel, or half an ounce of the confection of rue in a pint of camphor mixture. I have seen either of these remedies, carefully administered, followed by the expulsion of an enormous quantity of confined air, to the patient's great relief. If they fail, I have applied in some cases with happy effects the stomach pump per rectum, and withdrawn by the syringe the accumulated air, which may be passed through the lower tube of the stomach-pump into a basin containing water. But this should only be had recourse to when the introduction of the catheter or œsophagus tube fails.

In protracted cases, accompanied with gradual emaciation and irregular hectic paroxysms, there is little question that the intestinal ulceration is in a state of slow activity; under such circumstances I know no remedy equal to the sulphate of copper with opium, or the nitrate of silver, as already recommended, perseveringly administered, supporting at the same time the patient's strength by light broths, eggs, farinaceous preparations, and perhaps the more delicate kinds of white fish.

If there be not speedy amendment, the case is apt to be given up as hopeless; but the duty of the practitioner is to persevere even under discouraging circumstances. Many a time have I witnessed patients, emaciated almost to a skeleton, gradually recover, and reward many weeks' anxious care, and even when it was thought scarcely possible that the intestinal ulceration would ultimately cicatrize.

Let me draw your attention to the bladder, which is liable to become distended in the advanced stages of this fever. There may be complete retention of urine, or it may partially escape unconsciously, and thus the nurse, or even the medical attendant, fancy all is right so far as the bladder is concerned. There can be no difficulty, however, in determining the point, if the region of the bladder be carefully examined, a single percussion stroke being sufficient to the practised finger to indicate the presence of accumulated urine, unless there be such an amount of tympanitic distension as to render it impossible to come to a decided conclusion as to the state of this organ. If there be doubt, introduction of the catheter should not be delayed. In all cases, therefore, where there is great prostration, more especially if there be secondary brain affection, the state of the bladder should be daily inquired into, and not left to a report of the nurse, however experienced and attentive.

A point of much importance in the treatment of enteric fever is the due regulation of nourishment; indeed it requires equal discrimination as the administration of remedies strictly so called. The practice formerly adopted of almost entirely prohibiting nutriment in the management of fever originated in the erroneous views entertained by the solidists of the great

similarity between, if not the perfect identity of, inflammation and fever; and with such ideas of its nature we cannot wonder at the dietetic restrictions inculcated. But whatever difference may still exist, as to the indiscriminate exhibition of stimulants, few dispute the advantage of giving suitable support even in the early stage of enteric fever.

For the first few days, the most simple articles only—rice or groat gruel, thin barley-water, rennet whey, or weak black tea—should be allowed. The appetite is usually so much impaired that there is little difficulty in imposing restriction, but as the fever progresses it is better to allow a little more nourishment in the shape of thin panada, with a small quantity of beef-tea or any of the animal broths. I generally allow from half a pint to a pint of moderately good beef-tea in the twenty-four hours, almost from the commencement of the fever, unless the symptoms indicate a more than ordinarily acute disease, and consequently a more restricted regimen. The beef-tea should be given in small portions at a time, and if it produce uncomfortable feelings or feverishness, it should be put aside for a few days, and gruel and panada substituted.

In enteric fever, fruits and subacid drinks should be almost entirely forbidden, from the risk of increasing the irritability of the bowels; and while speaking of drinks, I may mention that the large amount of fluids taken with the object of checking thirst, often produces much uneasiness and feeling of oppression from the mere mechanical distension of the stomach, and very often without quenching thirst. It is better that small quantities of fluid, or a little piece of ice, be taken now and then, than copious draughts gulped down without reference to the uneasy sensations that are likely to follow; and for the same reason soda-water and such-like drinks containing fixed air should be avoided.

Towards the middle or end of the second week, sometimes earlier, sometimes later, symptoms indicative of exhaustion appear. The pulse becomes soft and compressible; the skin cool, and often covered with clammy moisture; the patient feels weaker, less able to exert himself, or perhaps even to turn in bed, and the tongue assumes a brown appearance. The necessity of a change of measures now becomes apparent. When the fever has been mild, it is generally sufficient to allow a more sustaining diet, stronger soups, or a small quantity of fish, or any of the tender meats, such as chicken or game, bearing in mind the irritable state of the bowels. At the same time a light tonic may be prescribed, those from the vegetable kingdom being by many preferred, though the mineral acids appear to me better suited; for example, a combination of the diluted nitric and muriatic acids in infusion or tincture of orange-peel. I have lately, on the suggestion of Professor Huss, given the diluted phosphoric acid; but I am not sensible of its having any superior advantages over the others. The barks of cinchona and cascarilla, the roots of gentian, chhyretta, senega, calumba, serpentary, either in the form of infusion or tincture, may be selected at discretion, though the salts of quinine have superseded them in a great measure. Many even in the present day adhere to the old decoction of bark, under the belief that this preparation contains more of the real principles of the drug than the modern alkaloid. Battley's liquor cinchonæ, in fifteen to twenty minim doses, is an agreeable and elegant preparation.

In regard to the administration of wine and alcoholic fluids in the treatment of this stage of enteric fever, I would simply observe that they are too frequently prescribed on the mere dogma of routine; and even when the symptoms warrant their employment, a much smaller quantity is required in this than in typhus fever. Many patients pass through enteric fever without a single dose of wine, even when the disease is protracted, showing that its indiscriminate use is by no means warranted; and it should be kept in mind that in its progress there are, besides exhaustion, other processes at work in the system—local affections—which possibly may be ultimately the destroying cause, and these may be aggravated by the injudicious use of stimulants. On the other hand, it is often imperative to support the failing powers, disregarding the injury particular organs may have sustained—in short, to obviate the tendency to death,—and to hope that as the constitutional powers are invigorated, the secondary lesions will partake of the general improvement.

But special circumstances sometimes arise, requiring the administration of stimulants, without regard to the period of the fever. The powers may suddenly give way, rendering an immediate and powerful stimulus necessary, and none is more suitable, under such emergency, than brandy in half-ounce doses, and repeated at such intervals as may be necessary. Again, sometimes a few ounces of wine, or a proportional amount of brandy, are sufficient to resuscitate the failing powers, when it should either be withdrawn, or given occasionally only.

To sum up the question of the administration of wine in enteric fever, I would observe—1st, that it should not be prescribed indiscriminately, but as an occasional remedy in special cases; and 2nd, when there is a doubt as to the propriety of giving or withholding wine, if the case be one of well-marked enteric fever, especially in the early stage, it will be safer to withhold it, at all events for a time; and 3rd, in every case, but especially when wine is not clearly indicated, the effect of the first few doses should be closely watched, and if the general complexion of the symptoms be improved, go on steadily, and watch again; if, however, it excite the patient, if restlessness and delirium be induced, if the tongue become more and more dry, the pulse more rapid and wiry, you may infer that wine is not suited to the case—at all events at its present stage—and should, therefore, be withdrawn.

Let me also allude to the importance of giving the wine at stated intervals, and only when the excitement is moderate. It is especially necessary to give it during the night, when there is often great exhaustion. A dose of wine judiciously given at this diurnal period is often followed by calm refreshing sleep; and hence the incalculable advantage of an interested experienced nurse, on whom so much responsibility—indeed the life of the patient—often rests.

We have seen that in the progress of enteric fever, the poison acts with special intensity on individual organs, inducing the so called secondary affections or complications, and requiring special local treatment. It should, however, be kept in view, that these lesions, which are due rather to congestion than to inflammation, neither require nor bear the measures that are usually employed in primary or idiopathic inflammation.

The nervous system, on the whole, suffers more severely than any other organ, and this is what might be anticipated from its seldom escaping in the general febrile commotion, except, perhaps, in the very mildest cases. When, therefore, the cerebral affection becomes unduly prominent, indicated by constant pain in the head, especially if accompanied by flushing, delirium, intolerance of light, and sleeplessness, the loss of a few ounces of blood by cupping the temples, or the application of leeches behind the ears, should not be omitted, while the hair should be removed from the head so as to allow a spirit lotion, or iced water, to be applied. The topical bleeding, however, is advisable only at the onset, or first appearance of the brain symptoms, and when the powers of the patient are able to sustain the loss of blood. When the brain affection assumes a form closely resembling delirium tremens—the patient being sleepless; the pulse rapid, soft, and compressible; the skin cool; the face pale; the delirium of the low, muttering character, with tremors and starting of the tendons,—loss of blood would speedily annihilate the chance of recovery. The treatment for this condition of the brain consists of fomentations of warm vinegar-and-water to the head; the application of blisters to the temples and forehead, and sinapisms to the extremities, supporting the strength at the same time by wine and nourishment, while the nervous system is tranquilized by a combination of antimony and opium in small doses, repeated at short intervals, according to the effect produced. For the introduction of this combination in the condition of the brain referred to, the profession is indebted to the late Dr. Graves, who appears to have employed it with the most happy results, and I am enabled to confirm his statements from my own experience. The best mode of prescribing it is, to add to eight ounces of a julep of the citrate of ammonia, four grains of tartar emetic, and one drachm of the solution of the acetate of morphia, of which half an ounce is to be administered every two hours, until sleep is procured. The scalp should at the same time be enveloped in a spirit lotion, and care taken that during sleep nourishment is administered at regular intervals, and not postponed until the patient awakes spontaneously. The repetition of the opiate in the way recommended must, of course, be left to the judgment of the medical attendant, and the exigency of the case.

Some practitioners prefer the local administration of opium by enema in these cases, and no doubt this mode is a good one, as it tends not only to calm the nervous system, but at the same time to check the diarrhoea when present.

Of the throat affections, the most formidable is the laryngeal angina formerly alluded to. This dangerous disease, which those who adopt the views of Rokitsansky ascribe to the typhous deposit in the delicate structure of the glottis, is, happily, not frequently met with, for it is seldom arrested by even the most prompt treatment. The first approach of hoarseness, with painful deglutition and tenderness on pressing the region of the larynx externally, should excite suspicion, and no time ought to be lost in instituting such remedies as the local symptoms require, having always in view the powers of the patient and

the probable endurance of the treatment. Gargles only produce fatigue and disappointment. Cupping on the nape of the neck, rapidly and dexterously performed, generally affords relief; and this should be followed by the application of the acetous solution of cantharidin under each angle of the jaw, avoiding the integuments covering the larynx; and, if the patient has strength for the effort, the vapour arising from hot water containing extract of conium should be conveyed to the throat by means of Read's valve inhaler. A large emollient poultice should be applied from ear to ear, and renewed every three hours or oftener. As to internal remedies, the exhibition of mercury, so manifestly efficacious in idiopathic angina of the larynx, is less trustworthy in the secondary form now under consideration, in consequence of the hazard of its irritating the bowels, and consequently renewing or increasing the local intestinal affection. If it be employed at all, the safer mode is by applying mercurial ointment to a portion of integument—the nape of the neck, for example—from which the cuticle has been removed by a blister. But a more safe and efficacious remedy will be found in antimonial preparations, especially the tartar emetic, of which from an eighth to a quarter of a grain may be given in solution every two, three, or four hours, according to the urgency of the case.

If, in spite of these measures, the symptoms continue unabated, or the aperture of the glottis become narrowed by cedematous effusion, the doom of the patient is no longer doubtful. I have in several instances suggested for the consideration of eminent surgical authorities the propriety of performing tracheotomy; but on weighing the balance of probabilities, and calmly considering the dangers to be apprehended from an operation, even under favourable circumstances hazardous, it has been abandoned.

We have seen that in a large proportion of cases, when enteric fever is well marked, the lungs are involved more or less seriously, the pulmonary affections being more common in the winter and spring.

If there be merely catarrh, it generally subsides in a few days, yielding apparently with the other symptoms, without special treatment. But it may pass into a more serious affection—bronchitis—which is easily recognised by the wheezing respiration, irritating cough, and local signs. If it be confined to the upper larger tubes, a sinapism or the acetous solution of cantharidin, applied under each clavicle, with a saline julep containing ipecacuanha wine and tincture of henbane or syrup of poppy, will generally be sufficient to remove it. But when the inflammation spreads to the smaller tubes, there is more difficulty in dealing with it, and more especially when, from its latency, it has not attracted notice at the commencement. If the powers are adequate to the loss of a few ounces of blood from the chest, great relief is generally obtained; but this can only be resorted to when the general condition of the patient shows constitutional vigour. In doubtful cases, or when local bleeding cannot with safety be had recourse to, excellent effects follow the process of dry-cupping. The application of a blister to some part of the chest is indispensable; and if the bronchitic affection has extended to both lungs, one should be placed on either side of the chest. Small doses of antimonial wine in a saline julep, or a pill containing half a grain of ipecacuan with two of James's powder, and the like quantity of extract of hemlock or poppy, at intervals of four or six hours, are well suited, in addition to the local measures.

The bronchitic affection, when severe, often spreads to the air-cells, giving rise to pulmonary congestion, which soon passes into pneumonia, and may be distinguished by its physical signs. It is commonly confined to the base of one lung, but may involve both, and, according to its intensity, endanger the patient's safety. The treatment must be regulated not only by the extent, but by the duration of the affection; for it should be observed that we seldom meet with this or any form of pulmonary disease until the more advanced period of the fever, or during convalescence, when the powers are reduced, and hence the necessity of caution in the use of depletive measures. But unless there be special circumstances to forbid it, we must treat this secondary disease on the same principles as primary pneumonia, bearing in mind that we have to deal with it under very different circumstances. The measures embrace local abstraction of blood, or dry cupping, turpentine fomentation or blistering, and the exhibition of small doses of tartar emetic in combination with compound tincture of camphor.

When peritoneal inflammation arises in the progress of enteric fever, it originates from two causes—1st, from gradual extension of the ulcerative process in one of Peyer's patches until the peritoneum is reached, and subsequent inflammatory action in this membrane set up; 2ndly, from perforation of the intestine

from the gradual process of ulcerative absorption. When it arises under the circumstances first mentioned, the management differs little from that of peritonitis arising under ordinary circumstances, and therefore recourse must be had to the application of leeches to the abdomen, and warm fomentations, after which a pill containing mercury and chalk with Dover's powder is to be given at intervals of three or four hours, supporting the strength at the same time by suitable nourishment. The treatment of peritonitis resulting from intestinal perforation is palliative only; for though I have witnessed the recovery of two cases in which the distinctive signs of intestinal perforation were unequivocal, the termination is almost invariably fatal. Beware in this formidable lesion of the abstraction of blood by leeches, which, while it is inefficacious in controlling the inflammation, tends to exhaust the patient. The only remedy is opium, by which the excruciating pain and accompanying nervous irritation are calmed, while the peristaltic motion of the intestines is at the same time diminished. Two grains of solid opium in a pill should be given at once, and afterwards a single grain every hour or every second hour until an impression is made on the symptoms. If it accomplish nothing more, this remedy alleviates suffering and soothes the agonies of death.

A CLINICAL EXAMINATION OF THE VALUE OF THE OPERATION OF TURNING IN LABOUR OBSTRUCTED THROUGH COARCTATION OF THE PELVIC BRIM.

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Primipara; labour at term; conjugate diameter contracted to three inches; delivery by feet. Recovery of mother.

CASE 3.—On the 29th November, 1859, I was called to a patient of the Royal Maternity Charity who was in labour for the first time at term. The midwife, on examining at eleven P.M. the day before, found a foot presenting, no pains, os slightly dilated. The os dilated more, but as the midwife found the labour had made no further progress, she sent for me at half-past four A.M. The left foot was in the vagina, and the other was just within the os, which had expanded to the size of the rim of a wineglass, but was somewhat rigid. The promontory projected very much, narrowing the conjugate diameter. There being no expulsive action, and artificial delivery being unavoidable, I began extraction by the left foot. There was some obstruction by the doubling-up of the right leg just within the cervix, the projecting knee forming the apex of a wedge the base of which lay internally. The os was too rigid to admit the hand to pass and seize the foot, so I slipped a noose of tape over it; by pulling upon this in the axis of the cervix the leg was easily extricated. The extraction of the body and shoulders was effected by use of moderate force, expulsive pains aiding a little. The head lay above the brim in the right oblique diameter, and entered in transverse diameter. For an hour, allowing intermissions, I was obliged to pull upon a towel passed over the neck and crossed in front of the chest, with nearly all the force I could exert, the midwife making counter-pressure on the pelvis, before the head could be brought through the outlet. It was a girl, of full size and development. The parietal and frontal bones of the right side, which had been in contact with the promontory of the sacrum, presented a deep depression, forming a mould of the promontory. The bones were partly broken and partly bent, so that measuring from the deepest part of the furrow to the opposite side of the head gave 3". This was the measure of the antero-posterior diameter. Possibly, from slight resiliency of the bones after release, the head had even a little recovered. The child was dead. After the birth of the child I introduced the whole hand into the pelvis to make an accurate exploration of its form and dimensions. The promontory projected, forming a sharp ridge, narrowing the brim to the extent described. The placenta was extracted in about ten minutes; the uterus contracted fairly. The mother took a sedative draught containing thirty minims of laudanum and an equal quantity of Hoffmann's elixir. She recovered without a bad symptom.