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# CANADA LANCET.

WILLIAM EDWARD BOWMAN, M.D., EDITOR.

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## ON THE INJURIOUS EFFECTS OF CHLOROFORM DURING LABOR.

By ROBERT JOHNS, M.B., F.R.C.S.I., Chairman of the Midwifery Court, and Examiner in Diseases of Women and Children, Royal College of Surgeons, Ireland, &c.

As, at the present time, the subject of chloroform inhalation is again *sub judice*, I feel it incumbent upon me to raise my voice against its employment in midwifery, and to lay before my professional brethren my reasons for the adoption of such a course, which I sincerely trust shall have some weight with the unprejudiced, and which may, perchance, call the more serious attention of some, if not of all, of those now too deeply wedded to its use, to the dangerous, and too often fatal results consequent thereon; in which, if I but even partially succeed, I shall consider myself well repaid.

From experience, repeated observation, and the published, as also the otherwise expressed opinions of those who agree, as well as of those who disagree with me upon the subject, I am firmly convinced that chloroform, when inhaled during labor, very fruitfully predisposes to hæmorrhage, puerperal inflammation, chest affections, and to other diseases detrimental to health and life, which it aggravates if given during their presence. It also lays the foundation of diseases to arise at a more distant period, and thus increases the mortality in childhood, and subsequent thereto. I have known puerperal inflammation frequently to have followed its inhalation, and too often with a fatal result; in fact, some years since, when it was more fashionable, and was given with a more lavish hand, a great mortality obtained amongst the patients of some few men who administered it—so much so that a popular outcry was raised against its employment. In the majority of those cases, puerperal fever was the cause of death, which, when thus raised, being, as I firmly believe, always infectious or otherwise communicable, became epidemicised, after which even those who wisely refused the drug, "charmed it never so sweetly," were thus inadvertently, and, in some instances, hopelessly poisoned.

In support of these positions, I shall first refer to the several published Reports of the Dublin Lying-in Hospital. We find, on reference thereto, during the masterships of Drs. Collins and Johnson, when chloroform was not inhaled, that the mortality was much less than during that of Dr. Shekleton, when this pernicious drug was used—as thus:—In the first report are recorded out of 16,414 deliveries but 164 deaths, or 1 in 100; in the second, out of 6,634 deliveries but 65 deaths, or 1 in 102; whereas in the third, 13,748 deliveries are given, and 163 deaths, or 1 in 84!! But of these last cases 13,406 of them were not chloroformed, of which only 133 died, or 1 in 100, but of the remaining 342, who took the drug, 30 died, or 1 in 11!!! If, again, we examine the reported cases of chloroform administration by Simpson and Denham, we shall find that of 345 cases mentioned by the form-

er, 5 died, or 1 in 49; and of 56 by the latter, 5 died, or 1 in 11!! And, by adding all these recorded cases together, we have a mortality on the whole of 1 in 16!!! By again consulting those reports, we perceive that in Dr. Collins's mastership there occurred 97 cases of post partum inflammation, or 1 in 169; in Dr. Johnson's, 62 cases, or 1 in 107; but in Dr. Shekleton's, 150 cases, or 1 in 91. Of those 150 cases, 20 followed upon chloroform inhalation, or 1 in 17!!! and in the remaining 130 cases, in which it was not employed, the average mortality was only 1 in 103. In Denham's report we find 4 cases, or 1 in 14; which, with all the recorded cases, strikes an average of 1 death for every 16½ persons who took chloroform!!!

We also find that during Dr. Collins's mastership, puerperal convulsions proved fatal in the proportion of 1 in 6; whereas in that of Dr. Shekleton, when under chloroform, it amounted to 1 in 3!! and in Denham's cases to 2 in 3!!! or, on the whole, to 1 in 2½!!!

It appears that, during Dr. Shekleton's tenure of office, post partum hæmorrhage occurred but once in every 257 cases when chloroform was not used; yet after its inhalation this complication was present in 1 of every 49 cases. In Dr. Denham's report it was present in 1 of every 19 cases; making, on the whole an average occurrence of 1 case of flooding in every 39½ cases that had taken chloroform.

With respect to the mortality after perforation, the report of Drs. Hardy and McClinton shows 1 fatal case in every 6, and that of Drs. Sinclair and Johnston 1 in every 5; but if we go a little below the surface in the latter report, and examine into 89 cases of perforation, all of equal severity and danger, we shall discover that of the 29 cases in which chloroform was inhaled 9 died, or 1 in 3½; puerperal inflammation occurred 10 times, or 1 in every 3 cases; and hæmorrhage followed in 3 cases, or 1 in every 10; whereas, of the 70 cases in which this drug was not employed, only 6 women died or 1 in every 12; puerperal inflammation arose on 7 in 3 cases, or 1 in every 23; and in no case did hæmorrhage occur.

Many have testified to the fact that uterine action has been lessened, and even caused to cease, by anaesthetics; as also that their effect on some is not commensurate with the quantity of the drug employed—as thus: a very large amount not having any effect upon some, whereas the inhalation of a very small dose, even of a few drops, has produced almost deep coma in others. Dr. Denham says:—"In some, if left to nature, the labor would probably have been completed in a somewhat shorter space of time. The advantages to be gained by chloroform in some cases will not be found an adequate compensation for the loss of power sustained in the muscles of animal and organic life; and, were we to continue its use, I do believe that the patients would remain undelivered

for hours, or even days. The cases that apparently require it most—tedious and difficult labors—are those where it often appears to be injurious, by weakening the pains or relaxing the muscles of animal life." Rigby says:—"We meet with cases, every now and then, where chloroform undoubtedly retards labor, and in some cases likely to call for the use of the forceps."

Dr. Robert Lee mentions cases in which "uterine contractions were arrested, requiring the use of the forceps, and the destruction of the child by the perforator."

Tyler Smith "has seen chloroform stop labor midway."

In some of the cases recorded by Sinclair and Johnston, uterine action was impaired.

My friend Dr. Young, of Monaghan, says, in a letter to me:—"I believe chloroform in many instances to delay the labor, by causing the pains to come at longer intervals, and rendering the expulsive efforts of the patient less efficient, owing to her insensibility to suffering."

Morrison has mentioned a case in which the uterus was so paralyzed that it failed to act afterwards.

Snow says:—"It is true that a full dose would, at any time, suspend uterine action for a few minutes, or as long as it might be kept up."

On looking into Drs. Sinclair and Johnston's report, we find "two cases in which version was very difficult; and two others, in which that operation was impossible, where chloroform had been inhaled."

Murphy thus speaks:—"In a case of version, I never experienced so much difficulty, in consequence of the strong contractions of the uterine fibres about the child."

Barnes remarks:—"In many cases it does not facilitate the operation of version, the uterus resisting the introduction of the hand."

Puerperal, hysterical, and epileptic convulsions, mania, paralysis, and insanity have followed on its use. Cases are recorded by Montgomery, Sinclair, and Denham, in which puerperal convulsions occurred after its employment. Sinclair gives two cases of hysterical convulsions, in one of which violent muscular action was induced and restlessness continued for a considerable time after the inhaler was removed.

Murphy states that, "in dentistry, hysterical women have been seized with fits when under its influence."

Snow asserts that "hysterical patients, as soon as they lose their consciousness from the effects of the vapor, are sometimes attacked with a paroxysm of hysteria."

Dr. R. Lee says:—"Epilepsy has been so induced."

Sinclair records one case of epilepsy.

Snow and M. Fix have stated "that persons subject to epilepsy are likely to have a fit brought on by inhaling chloroform."

Ramsbotham "saw three cases of puerperal mania so caused. A friend of his also saw one similar case."

Sutherland "met three other cases similarly produced."

Tyler Smith stated "that he had seen mania from its use."

Parks relates the case of a lady who had chloroform in her third labor. "She, after delivery, complained of violent pain in the head, became

delirious, tore the nurse's gown and the bedclothes into pieces, and was perfectly maudlin."

Mr. Banner thus speaks:—"A patient became delirious, and continued so during the day and greater part of the night, after its use."

Haartman "saw a case of headache terminating in paralysis, caused by this drug."

In one of Dubois' published cases, numbness of the fingers, and in another the same condition of the legs, supervened, and had not subsided at the end of twenty-four hours.

In Denham's report I find one case of coma after chloroform inhalation.

Dr. R. Lee says "that insanity has followed on its employment; that dangerous and fatal peritonitis and phlebitis have been caused by its inhalation."

Two or three of Denham's cases were seized with rigors; and Lee mentions others with dangerous fits of syncope; and in this he is borne out by the following, which I find recorded amongst Denham's cases:—"While inhaling, the pulse became very weak, and she gave no signs of consciousness; and immediately on the birth of the child the respiration of the patient ceased, and the pulse became imperceptible: the application of cold water to the face soon revived her, and she went on favorably for some days; but diarrhoea, with extensive inflammation of the mucous membrane of the ileum set in, and she died on the fourteenth day."

Sinclair and Johnston record nearly a similar case, as thus:—"The pulse suddenly became imperceptible, and respiration appeared to have ceased. She subsequently died of phlebitis." And they give another in which collapse occurred, and she also died with symptoms of phlebitis.

Dr. Barnes stated—"That he had himself given chloroform to facilitate the extraction of an adherent placenta, and had witnessed such exceeding prostration for eight hours afterwards, as to make him, and another practitioner who assisted him, apprehensive of the instant death of the patient."

Many are of opinion that the inhalation of chloroform predisposes to laceration of the perineum; indeed, some of the published cases would tend to favor this idea. In Sinclair and Johnston's report we find that, in the recorded cases, it occurred once in 27 cases; and when not employed, the accident happened only once in 93 cases. In the same work we find three cases of chest affection aggravated by this means, two of which succumbed.

Dr. Ringland in reply to a letter from me, writes. "I have seen chloroform frequently used in puerperal convulsions, and have used it myself in connection with the practice of the Coombe Lying-in Hospital; and the conclusion I have come to is, that I will never again use it, or sanction its use, in puerperal convulsions. I have observed that, however satisfactory its employment may appear at the time, it has been almost invariably followed by bronchitis within about 48 hours, and that the patients have sunk rapidly under the latter affection. I have seen this so frequently that I cannot but look on chloroform and bronchitis, under the circumstances I have named, as cause and effect; and the mortality from the subsequent bronchitis, as the actual result of the employment of chloroform."

Ramsbotham relates the case of "a lady who was seized with dyspnoea, with excessive lividity of

the face, and all the signs of engorgement of the lungs and heart, and died in convulsions six hours after."

Murphy has published a case nearly similar; he also admits "that vomiting, nausea and headache sometimes follow on its use." Nausea and vomiting were also present in one of Denham's cases.

Rigby states, "that intense headache, and even vomiting, are consequences of its use."

Parks give the case of a lady, in whom, after chloroform inhalation, flooding came on to a fearful extent, and incessant sickness. He managed to extract the placenta; and, owing to the feeble contractions of the uterus (and this latter condition, he is confident, it often produces), he was kept grasping it for four or five hours; the vomiting continued for eight hours without intermission; the headache remained for weeks.

Tyler Smith "believed that post partum hæmorrhage and retention of the placenta occurred more frequently after its use than without it."

Montgomery was of opinion "that it predisposes to retained placenta and hæmorrhage."

My friend Dr. Young, before alluded to, says:—"I have blamed it for causing a longer detention of the placenta, and for occasional after-hæmorrhage, owing to the lazy and inefficient contraction of the uterus. After its use opiates have very little effect; even very decided doses, in any form, have not been followed by that tranquillity I have hoped for, in that violent pain which I have so often found to follow operations when chloroform had been used."

Murphy speaks of being obliged to "press upon the uterus to expel the placenta, in two cases, after chloroform.

Some of the loudest advocates for chloroform inhalation in labor have, in order to counteract its deleterious effects upon uterine action, recommended the co-administration of ergot of rye; which practice reminds me of the astute physician who, to be sure to hit his patient's disease, prescribed for him the combination of a stimulant with a sedative.

Outsack and others have also testified to the deleterious effects of this drug upon the cerebro-spinal system of the infant.

Dr. Aveling speaks of "a lady who had chloroform in three labors, all of whose children, when upwell, had for years afterwards the smell distinctly of their breaths. This lady would never take it again."

Dr. Jackson (an American) thus writes upon the subject:—"When chloroform is inhaled into the lungs, the oxygen is abstracted from the blood, and, combining with the formyle, makes formic acid, while the chlorine combines with the blood as a substitute for oxygen. Thus a portion of the blood becomes chemically changed, disorganised, and rendered unfit for its vital functions.

Denham says:—"There are cases in which chloroform appeared to be not only useless, but, when persevered in, positively injurious." And again:—"In giving chloroform we incur a certain amount of present danger, and perchance of remote ill effects."

Dr. Robert Lee, in reply to a letter from me, says:—"I could give you a great number of cases in which chloroform was not only injurious, but fatal."

Dr. Gream said:—"He agreed with Dr. Lee in saying that we were quite unacquainted with con-

tench of the evil effects which had resulted from the use of chloroform, particularly in Scotland."

Dr. Duncan, in a letter to Dr. Lee, thus writes:—"Your case of chloroform death in midwifery is, to the best of my belief, not the only one in Scotland. I was called, too late, to a case which died suddenly while taking it in small quantity."

Dr. Campbell, of Ayrshire, records another case of death in labor from its use. Mr. Carter says "that in two cases its effects would appear to have been pernicious."

Prof. Faye, of Christians, has also recorded a fatal case of labor after its use.

Dr. Rogers said "he knew of a case where death took place apparently in consequence of its use in midwifery."

Dr. Barnes says:—"In ordinary forceps cases chloroform certainly is not required, either to facilitate the operation or to allay pain. Indeed by its use in such cases we lose one very valuable indication in the loss of our patient's sense of feeling."

Dr. Chas. Kidd does not consider its use devoid of danger, as he advises the physician who administers it "always to carry in his pocket a portable galvanic chain or battery.

Drs. Kidd and Richardson are reported as having seen many deaths after its employment; and the former gentleman "to have seen about 300 cases restored to life or rescued after they had been pronounced dead.

I would ask, in the name of common sense, is it within the bounds of reason to believe that a medicine can be employed innocuously with the pregnant female, when confessedly its use has often been followed, not only by dangerous, but even fatal results under other circumstances, as testified to by Drs. Kidd and Richardson, amongst many others, as also by almost every periodical we take up.

We have been told that across the Tweed death has not, in any instance, followed upon the inhalation of chloroform in labor, whereas some have been since recorded; and not very long ago I was informed, by more than one physician practising in Scotland, that many have so occurred there, but not made public, yet well known to the profession.

It is also a fact that some who have written favorably on its use have since changed their opinions, but have not said so publicly. Some give it only in name, or as has been styled *à la Reine*, making their patients believe that they are saved from a vast amount of pain, when in reality they have scarcely inhaled a single breath of it.

We very frequently see better and safer recoveries after tedious and painful than after rapid and painless labors, and the latter are not the less likely to be seriously complicated; indeed in former days, when, happy for the parturient female, chloroform was unknown, and when meddling midwifery was strongly reprobated, such an opinion was entertained.

Even though it were possible to divest chloroform of its dangers, it does not, as has been already shown, always produce the advantages expected from its use, as in version; for indeed not a few instances have been recorded of its having been an impediment to this operation, which in some cases could not be overcome. I cannot see any advantage derivable from the inhalation of this poisonous drug in cases of retained placenta, as generally such a complication is caused by inaction of the uterus; and our object, therefore, ought to be to induce uterine action, surely not further to paralyse it.

Every practical man hails after-pains as salutary, especially after quick and painless labors, and would not dream of interfering with their wholesome action, unless very severe, for some hours after delivery; yet those misguided chloroformists think nothing of interfering with that safe action at times when the advent of hemorrhage would complicate matters more seriously. The other objections to its use at other times, under certain circumstances, are equally admissible here. I think I have now demonstrated not only by my own experience but also by some of the highest obstetrical authorities in the land, that chloroform inhalation is far from being a safe remedy in childbed, and should not then be employed.—*Dublin Quarterly Journal of Medical Science.*

## Canada Lancet.

MONTREAL, SEPTEMBER 15, 1863.

In the city of Montreal there are two Medical Colleges, an English and a French one, the former being in connection with McGill University, and the Montreal General, and University Lying-in Hospitals. In the latter, "L'Ecole de Médecine et de Chirurgie," the lectures are delivered in the French language: it has the great advantage of having under its control one of the largest and finest hospitals in the Province—the Hotel Dieu; it has also the Ste. Pelagie Hospital for Midwifery, practice, and La Dispensaire de la Providence, where over 800 out-door patients have been prescribed for within the past three months. And another is about to be opened under its guidance in connection with Les Dames des Sœurs Grises.

The English College gets the greater credit for superior physicians, because they practice among ourselves: the French too consider theirs the more excellent for a similar reason: the truth probably lies midway—for talent is not made in either.

To the student in medicine, McGill College possesses many advantages over its rival—unfair advantages, gained by partial legislation. They may be briefly stated as follows:—

*Firstly.* Whilst a student attending the English College requires but three years and a half of study to obtain his degree and license to practice, the law demands four full years if he attends the French one. And this three years and a half may be made a month or two less if desired, for matriculation tickets are granted as late as Christmas; and last winter we learn that they were given up to the month of February. Again, this three years and a half may be further shortened to two and a half, by producing a certificate from any medical man that the applicant has studied for a year previously; this cannot be done in the other school.

*Secondly.* A student in the English College has his time counted from the moment of commencing his studies, and has the privilege of receiving his classical examination at any period up to the time of the final one for his degree. But when attending the French school his studies can only be reckoned from this examination, which must be by the College of Physicians and Surgeons of Lower Canada.

And should a student be rejected by the board of examiners, he would get no credit for his time were he to attend the French lectures, but he can at once enter McGill College, and go on with his studies. The classical examination of McGill College is very easy, certificates being readily obtained after a month or two spent in the study of Latin. We have never heard of a student being prevented from graduating for want of knowledge of this kind; and have known students to have passed it who were unable afterwards to translate their diplomas, or understand the Hippocratic oath they were compelled to take before receiving them. It would be better were this part of the ceremony put into English.

*Thirdly.* The English College has the power of granting degrees—the French one possesses no such right; this want it feels more than any other: were they enabled to confer degrees they would be the more valuable from the extra labour necessary to their attainment.

*Fourthly.* The English College has the right of examining its own students, whilst those of the French are compelled to go before the College of Physicians and Surgeons even for the examination for license to practice.

It will then be seen that "L'Ecole de Médecine" labours under many disadvantages, notwithstanding which its classes are always well attended, and its professors stand deservedly high among their countrymen. In the appointments of professorships, the French school possesses a decided superiority over the English one, as they are always made for ability and fitness for the chairs to be occupied. In McGill College, on the contrary, they are put in by routine, as in the army, without regard to qualification or talent. Any young man may become a professor in McGill College with patience and a constant effort to flatter and please those above him, provided he can get elected as apothecary to the Montreal General Hospital. Each vacancy occurring in the College makes one step of advance for every one beneath it, and consequently for him. We have had a demonstration of the working of this system within the past few months: the house surgeon resigned—the apothecary was quietly installed into his place—nobody knew anything about it until it was all over. The demonstratorship of anatomy is about to be vacated; it is not necessary to inquire who is to receive it—none but the house surgeon will be appointed to it—he is already preparing his round-robin—'tis the fashion—all the students will sign it—they ask for his appointment—what is it to them who gets in? It will be done—not for the petition,—not for his experience and fitness,—not because he is the best man that can be found,—but because it is his turn next. Another vacancy occurring, this young man gets a clinical professorship—perhaps of surgery, without ever having performed half a dozen operations in his life. It has been done before—it will be done again.

The result of all this is, that the talent of the country is not represented in this institution, for what man of spirit much less of ability and experience would, for the sake of a professorship, consent to accept a place beneath a lot of younger men, his inferiors in all these respects, and on whose will he must depend for future advancement. We do not say but that some of these young men may occasionally turn out good lecturers; but possessing no power to remove the incompetent ones, the college is suffering from the burthen. And were it

not for the few professors elected—long ago, from their superior talents and experience, McGill College would be but a second rate institution to-day. But these clever men cannot live forever—who will take their places? Is it to be young men who are to derive their experience in the very seats they occupy, which they change and interchange among themselves without regard to fitness, as school-boys do at marbles? The true professors among us look on the play in silence and wonder—what next?

### NEW BOOKS.

THE PRINCIPLES AND PRACTICE OF OBSTETRICS, by Gunning S. Bedford, A. M., M. D., Professor of Obstetrics in the University of New York; 3rd edition, 8vo, pp. 775. Wood & Co., N. Y.

Eminently practical ourselves, we necessarily admire this qualification in others, and the medical work before us fully deserves our commendation in this particular. Written in a concise and pleasing style, replete with practical facts, remarks and instructions, it is really an excellent work for either medical man or student. Apart from his own extensive experience, our author quotes from over three hundred different eminent writers in support of the opinions advanced. Besides the very thorough treatises on labor and its complications, he enters fully into the anatomy of the organs of generation, and menstruation, and reproduction, and finishes with anaesthetics. The United States have always been celebrated for their authors on midwifery—and this one fully sustains their reputation. We do not, therefore, wonder at its being adopted by so many colleges as a text book: it would rather have surprised us had they not done so. We congratulate him on its well-merited success.

### ON PLEURISY.

BY HYDE SALTER, M.D., F.R.S.

Being part of a *Clinical Lecture delivered at Charing Cross Hospital.* (Concluded.)

The *Prognosis* in all these cases is entirely favorable. About the cases of the girl and lad, in which there was no effusion, there has been from first to last, peculiarly little besides the local condition. That local condition has never been of a serious character. In the case of the girl, the pleura of the left side has merely to resume the state that the right pleura has already resumed, and which a few days has sufficed for it to resume, for her to be well. In the boy, as far as one can judge, the smoothing of the membrane will be a slower process. The man's case, as we have seen, is rapidly improving day by day,—each day, the physical signs mark a subsidence in the effusion. It is now only a week and a day since I first listened to the chest and found, in the right half of it, apparently serum, *et præterea nihil*; and now there is but a small quantity in the most dependent part of the pleural cavity, and the lung has all but re-occupied its old situation. A few steps more in the same direction, and every drop of serum will be gone.

As far as physical signs go, I will venture to predict that the two last that will be lost will be the percussion-dulness and the diminished vocal fremitus; the percussion-dulness last of all. It is wonderful how these two signs hang about after pleuritic effusion. Long after natural respiratory murmur has been re-established, long after every trace of ægophony has disappeared, we shall probably find traces of these two signs. I venture to pre-

dict this on the strength of what I have observed in other cases. What is the cause of this lingering percussion-dulness and imperfectly re-established vocal fremitus, I find it very difficult to guess. It is certainly not dependent on lung-compression or unabsorbed effusion. The only thing that I can imagine is, that the film of gelatinous fibrine-clot, to which I have already referred, so often found lining the cavity of the chest, and covering the surface of lung in pleuritic hydrothorax, may, by intervening between the lung and the chest-wall, act as a *damp*, and in the one case stop the conduction of the percussion-stroke from without, and in the other the conduction of the bronchial voice-vibrations from within.

How soon the girl and the young man will lose their friction-sound it is impossible to say; nor does it matter. Pleuritic rubbing is one of the most variable and uncertain of physical signs as regards its duration, and one of the least important as regards its prognostic indications. You may just catch it for a day, or it may persist for weeks—yes, for months; and if it does so persist, a man is not a whit the worse for it, if he has recovered his health in every other respect. A man in whom all the functions of life are perfectly performed is not the less a sound man because you hear in his side a sound you do not hear in another's. I remember a patient in King's College Hospital, some years ago, who was kept in the hospital several weeks after he was in other respects well, in consequence of strong pleuritic sound and fremitus in his left pectoralis region. The man was a strong sturdy fellow, and made himself so generally useful that he became a sort of supernumerary servant of the hospital. We used to amuse ourselves, I remember, by making him strip, and feel with the palms of our hands on the pectoralis this friction-thrill each time he breathed. At last the physicians were ashamed of keeping him in any longer; and he left the hospital with not only the sound, but the fremitus, as strong as ever. In Wingall's case, the friction will very likely last equally long. In the girl's case, however, I should expect that the rubbing would soon disappear, merely because it has so quickly disappeared on the opposite side.

There is one curious question that these cases suggest:—What is the determining cause that gives such different anatomical results in different cases of one and the same disease? Why in one of these cases should there have been effusion without roughening, and in the two others roughening without effusion? Shall we find the explanation of this difference in the condition of the blood? Shall we find it in any diathetic peculiarity? That it is not to be found in the nature of the exciting cause seems pretty evident, because in these three cases the exciting cause was one and the same.

I must not dismiss you without saying just one word about *Treatment*.

You will have observed that in all the cases my treatment was very simple. I aimed at three or four definite and intelligible objects with a view of placing the parts under the conditions most favourable for inducing and maintaining the natural reparative processes. These conditions in my opinion are:

To give functional and physical rest;

To allay pain by direct sedation;

To keep up vital power.

To give functional and physical rest, because the part is crippled, and to work a crippled part is to

keep it crippled; it is to keep it at a constant disadvantage; whereas it ought to be placed at an advantage, for something is to take place in it which is not taking place in the sound part, namely a reparative process over and above its ordinary nutrition and function.

To allay pain, because pain and healthy nutritional action are incompatible—as long as the one subsists, the other will be suspended; and this no doubt, from the baneful and disturbing influence which pain exercises on the nervous superintendence of the circulation of the part.

To keep up vital power, because the higher the standard at which this is kept, the more energetic will be the processes leading back to a condition of health, whether of deposition, of absorption, or whatever they may be.

In the cases of Russell and Wingall, in which there was no effusion, but merely the pain and friction, I endeavoured to secure these conditions by forbidding exertion, by the infliction of sedatives, and by the administration of quinine, etc. And even with the man Franklin I had but little more to do than this. I neither bled him, nor leeches him, nor blistered him, nor purged him, nor antimonialised him, nor mercurialised, nor "ised" him in any other way, except did my best to *sthenise* him. His pain was much greater than that in the other cases, so I gave him in addition frequent doses of sedative internally. As far as we can judge from results, the counter-irritation of the turpentine fomentations was of the greatest service to him.

By some persons a blister is always applied in cases of pleuritic effusion, and with a view, I believe, of removing the fluid by withdrawing it into the blisters which are raised; but if we look at the quantity contained in the chest, and the quantity which the blister "draws," this action is seen to be clearly impossible. The only other way in which it can act is as a counter-irritant, and I think in this way it is inferior either to mustard or turpentine, and has the disadvantage of not being able to be repeated.

With a view of promoting absorption some physicians have advocated bleeding in cases of pleuritic effusion. There can be no doubt that the abstraction of blood increases the rapidity of absorption, and, therefore, that this practice stands on rational theoretical grounds; but there are strong practical objections to it; it certainly in its general results tends in exactly the opposite direction to that which the rest of our therapeutics is directed to; and in the opinion of some, and among them the late Dr. Todd, has a direct tendency to increase the effusion, by impoverishing the blood and rendering it more watery and prone to passive transudation. I have heard Dr. Todd say of himself that he thought, if in any given case of pleurisy you wanted to produce effusion, nothing would be so likely to do so as to bleed your patient. At any rate, if we could, by reducing the contents of the blood-vessels, generate an endosmotic current into them, and so favour absorption without impoverishing the blood, it would be vastly better. I am not sure that this might not be done by giving occasional smart doses of hydragogue cathartics; in any future case of hydrothorax, I should feel very much disposed to try it; carefully keeping up my patient at the same time in every way, by tonics, stimulants, and food, to antagonise the lowering effect of the cathartics.

The only part of my treatment about which I have any doubt is about the value of the iodine in any case: which one wants to promote absorption, one gives iodine, as a matter of course, externally, internally, and both; and one cannot doubt that locally its effects in this way are sometimes very striking. But if you were to ask me if in any given case of hydrothorax, I had any tangible and irrefragable proof that the fluid had disappeared the sooner for its administration, I should say I had not.—*Br. Med. Jour.*

## TYPHOID OR ENTERIC FEVER.

### THE TREATMENT

By ALEXANDER TWEEDIE, M.D., F.R.S., Physician to the London Fever Hospital, &c., &c. An abstract of his recent work on Fever.

*The Sick Room.*—The apartment should be of good size and be well ventilated, fresh air being allowed to pass through it occasionally, even in cold weather. Its temperature should be kept near 60° F. as possible, and ought never to exceed 65° when it can be avoided; though sometimes in the summer and autumn months it may be difficult to obtain this limited range.

The patient should lie upon a soft hair mattress, and his comfort would be much promoted by the occupation of one bed during the day, and another at night. Perfect quiet should be enjoined, and but few and short visits be permitted.

*Diet.*—During the first few days, the diet should be restricted to the lightest farinaceous food; afterwards, as the fever progresses, beef tea or chicken broth may be allowed. I generally direct from half a pint to a pint of moderately good beef tea in the 24 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 withheld for a few days, the gruel and panada being continued as before.

All fruits should be avoided, or be used but sparingly.

Towards the middle or end of the second week, perhaps earlier or later, symptoms of exhaustion appear, the pulse becomes soft and compressible, the skin cool and often covered with a clammy moisture, the patient feels weaker, and the tongue assumes a brown appearance. More sustaining diet must now be allowed, as stronger soups, fish, and tender meats, and a light tonic, as the mineral acids or vegetable bitters, should be prescribed.

*Drinks.*—The thirst may be allayed by such drinks as whey, rice-water, lemonade, apple-juice, &c., which, if desired, may be iced. Should the bowels become irritated by the acid drinks, they must be given more sparingly, or be discontinued for a time. Long draughts of any kind are apt to distend and oppress the stomach without allaying the thirst; aerated waters are also objectionable for the same reason; therefore small quantities of fluids, more frequently repeated would be preferable. A little piece of ice taken into the mouth occasionally generally proves extremely grateful to the patient, and may at any time be suggested.

*Emetics.*—I do not consider that these possess any other power than of ridding the stomach of acrid matters, for which they are only applicable at the very commencement of the disease.

*Purgatives.*—In the beginning, and particularly

when there is uncertainty as to the state of the bowels, it may become advisable to exhibit some mild laxative; but should even this produce undue action of the intestinal canal, it should be checked by means of a few drops of laudanum given in an aromatic draught.

In the management of the diarrhoea, all aperients must be carefully avoided.

**Saline Mixtures.**—No dependence should be placed upon them. If something must be done, however, to amuse the patient, a mixture with citrate of potash or ammonia may be prescribed, as it tends to allay the thirst and promote determination to the skin.

**Cerebral Symptoms.**—When there is much excitement, with throbbing headache, flushing, restlessness, and perhaps delirium, the reduction of the vascular fulness may be best accomplished by tartar emetic, given in small doses and repeated every three or four hours, and applying a spirit lotion or cold water to the scalp previously deprived of hair; these proving insufficient, a few leeches may be put to the back of the ears. If symptoms in other organs arise to indicate that the struggle is to be a severe one, the question of further blood-letting will be forced upon our consideration.

**Blood-letting.**—On comparing carefully the results of cases treated by others with my own experience, I am satisfied that in mild cases, bleeding is uncalled for, and tends but to lower the vital powers, and retard convalescence.

But in intermediate cases, when, in addition to the intestinal affection, there is unusual general excitement, or, it may be, some organ important to life implicated, I have observed marked relief from the loss of a few ounces of blood (rarely exceeding ten), taken in the early stage of the fever, and that besides the great improvement in the feelings of the patient, the duration of the fever has been shortened.

In cases where the symptoms pursue a rapid downward course, and a state resembling delirium tremens sets in, with sleeplessness, rapid, soft, and compressible pulse, cool skin, pale face, low muttering delirium, tremors, and starting of the tendons, bleeding would take away the only chance of recovery. The treatment must now consist in warm fomentations to the head, of vinegar and water, blisters to the temples and forehead, and mustard poultices to the extremities; supporting the strength by wine and nourishment, whilst the nervous system is tranquilized by the internal employment of quarter-grain doses of tartar emetic with a sixteenth of a grain of acetate of morphine, given in spirit. Mindereri, or solution of the acetate of ammonia, and repeated every two hours until sleep is obtained. This is the mode of treatment introduced and practiced with such success by the late Dr. Graves. The scalp should at the same time be enveloped in a spirit lotion, and care be taken that nourishment be administered at regular intervals, and not postponed until the patient awakes spontaneously.

**Wine.**—Alcoholic fluids should not be prescribed indiscriminately in typhoid fever, but rather be considered as an occasional remedy for especial cases. When employed, they should be given carefully, and at stated intervals, when the exhaustion is greatest, as at night, when a little wine administered with judgment, is often followed with refreshing sleep. If it excite the patient, cause the pulse to become more wiry, or render the tongue

drier, its use should be temporarily suspended.

Although most applicable to the latter stages, circumstances occasionally arise which require the administration of stimuli without regard to the period of the fever. The powers may suddenly give way, rendering immediate and energetic stimulus necessary to obviate the tendency to death, when brandy, in half-ounce doses, frequently repeated, will often save the life of the patient.

**Diarrhoea.**—When moderate, this should not be interfered with, but should the number of evacuations exceed three or four in the 24 hours, they must be checked to prevent the drain upon the patient's strength, for this purpose, a few drops of laudanum (5 or 6), or pargorie (15 or 20), in an agreeable vehicle, generally answers very well, and may be repeated according to circumstances. The mineral acids may often be advantageously combined with the tincture of opium as 15 m. diluted sulphuric, nitric, or phosphoric acid, with 3, 4, or 5 m. of the laudanum.

Enemata of 10 or 15 drops of the tinct. opium with three or four ounces of starch gruel, is often a preferable mode of checking the looseness, when the patient can be made to submit to them.

Should opiates prove unavailing, astringents may be conjoined with them. The salts of copper, silver, and lead, I consider superior to the vegetable astringents, for when judiciously managed, I have found them to do all that any remedy can affect in controlling the diarrhoea.

The acetate of lead I am in the habit of giving, even in the early stage, every six or eight hours, under the impression that it is capable, not only of controlling the purging, but of keeping in check the ulcerative process in Peyer's patches, and removing the tympantitis. It may be given alone in three grain doses, or combined with from a sixteenth to a twelfth of a grain of the acetate of morphine.

The sulphate of copper with opium is also a valuable remedy; I do not know of a better, especially in protracted cases—an eighth of a grain in pill with an equal quantity of opium given every four, six or eight hours, will seldom fail of checking the diarrhoea, whilst it seems to exercise a beneficial influence on the intestinal affection.

Quarter grain doses of the nitrate of silver, with or without opium, every six hours, or after every liquid evacuation, often exercises a remarkable control over these discharges. It should be given in the form of pill. Some practitioners do not employ it from fear of its darkening the skin. I have used it extensively and often continuously for a considerable time, and have never yet witnessed any such effect from its administration.

Alum is another remedy of the astringent class that may be relied upon; it should be given in the form of whey. This is made by putting one drachm of powdered alum into a pint of boiling milk. The fluid portion, after separation, may be given in doses of two tablespoonfuls every three or four hours, or oftener if required.

**Tympantitis.**—Much relief may be obtained from warm fomentations kept constantly to the swollen intestines, and one of the most agreeable modes of applying them is by means of folds of lint wrung out of boiling water, and placed upon the abdomen as hot as can be borne, covering it afterwards with oiled silk, or gutta percha tissue, to prevent evaporation; renewing the heat from time to time, as desired. When the tympanitic distension is considerable, a small quantity of spirits of turpen-



tine may be sprinkled upon the surface of the lint just before applying it. Indeed I am in the habit of keeping the right iliac region tender by it when a more extended application is unnecessary, or objected to. Compound camphor liniment may be substituted for the turpentine when the latter will not be endured.

When tympanitis occurs early in the fever, and the powers of the patient are not much impaired, a few leeches may be applied to the abdomen with benefit, following them with emollient fomentations, and the internal exhibition of the acetate of lead. But should the loss of blood be contra-indicated, the lead alone may be employed with turpentine stupes as above directed.

Injections of half an ounce of tinct. assafoetida in a pint of common gruel, or half an ounce of collection of rue in a pint of camphor mixture, if carefully administered, will generally cause the expulsion of a large quantity of the confined air in such cases, to the patient's great relief. Or introducing an œsophagus tube gently into the rectum, or a No. 12 elastic catheter will also give vent to the accumulated air which may be passed through a vessel of water. If cautiously managed, a pump may be attached to the tube, and the air be thus drawn gradually away.

**Hæmorrhage from the Bowels.**—This 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 only in robust subjects; and in such circumstances, we must not hastily interfere with it, but in enfeebled persons, even a moderate discharge calls for prompt measures to arrest it.

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 morphine, or a combination of gallic acid and opium, be given at short intervals. But when the bleeding is moderate, a starch and laudanum enema will often alone be sufficient to control it.—(Continued.)

### To Correspondents.

**Needles.**—Those employed in the hospitals here, are the ordinary crotchets' needles: they are triangular at their points, and have three sharp cutting edges. Apart therefore, from their cheapness, their ready introduction, renders them much superior to the regular surgeons' needles. When required curved they may be easily bent whilst hot, over a piece of round iron, if the extreme point be held firmly to it with pincers during the turning. They may also be obtained extremely small, this is an important point especially in operations about the eye, for which we have found them very convenient, having twice performed Critchett's operation for shortening the internal rectus, with little crotchets' needles so cured; this would have been very difficult with any of the smallest surgeons' needles that we have ever seen.

**How to make a Linseed Poultice.**—The ground flax seed employed for making poultices, should be sweet and fresh, and of a yellowish colour; when of a sour taste, or smell it should be rejected. Fill a teacup lightly with the meal, rubbing off all that is above the level of its brim, and having put it into a hot bowl, pour over it very nearly the same quantity of boiling water, and heat it up as you would an egg; it will be quite thin at first, but in a few minutes of diligent stirring it will become of the proper consistence. It should now be spread from half an inch to an inch thick, on cotton or soft linen, and be large enough to cover all the inflamed part; when, after greasing its surface with a little fresh lard, to prevent it from adhering to the skin, it will be ready for application.

Never mix a poultice until you wish to put it on, as keeping it hot over a fire or boiling it, renders it sticky and uncomfortable.

When rightly made and of the proper temperature, it should feel warm and pleasant, relieve the pain, assist the

formation of matter, and by softening the structures that cover it, hasten its appearance to the surface.

Poultices should be changed frequently, and care be taken not to expose the parts to cold whilst doing so. They may be continued for a few days after the discharge of the matter, when a dressing of simple ointment should be used instead.

When applied to offensive ulcers, stir in a tablespoonful of powdered charcoal before spreading; this will destroy the smell and render the discharges healthy.

When put upon the head to remove scaly eruptions, add a teaspoonful of common baking soda to each poultice.  
**Sugar of Anise.**—To ten ounces of powdered white sugar add by trituration, quarter of an ounce of the oil of anise. It is much employed here for colic in infants. Direct for a child a month old, as much as will lay on a three penny piece, and for one of a year, what a sixpence will hold. To be given in a little milk and water, and be repeated when necessary.

**Medical Works published in Great Britain from the 1st August to the 1st Sept., 1863, with their sizes, numbers of pages, publishers' names, and prices in sterling.**

Liordet, J. L., *Mentone in its Medical aspect.* fcp. pp. 11 (Churchill) 2s. 6d.

Montgomery, F. W., *Signs and Symptoms of Pregnancy, and other papers connected with Midwifery.* 2nd ed. fcp. pp. 732. (Longman) 25s.

Watts, H., *Dictionary of Chemistry and the allied branches of other Sciences.* Founded on that of the late Dr. Watts. In 4 vols, Vol. 1. A—C. 8vo pp. 1176. (Longman) 31s. 6d.

*Error.*—In our last for "Hardwicke," Charities of London read:

Low, S. *The Charities of London, a new edition corrected to April, 1863; with additions* 12mo. pp. 490. (Sampson) 5s.

### Periodicals received since 15th August.

London Medical Times, to 29th Aug.; London Lancet to 29th Aug.; Boston Med. & Surg. Journal, to 10th & 17th Aug.; Philadelphia Med. & Surg. Reporter, to 29th Aug.; Pacific Med. and Surg. Journal, San Francisco, July; Boston Med. & Surg. Journal, Sept.; Chicago Medical Examiner, Aug.; American Medical Times, to 12th Sept.; Cincinnati Medical Journal, Aug.; Cincinnati Lancet & Observer, Aug.; Philadelphia Medical News & Library, Sept.; London Chemist & Druggist, Aug.; American Drug Circular, Sept.; London Publishers' Circular, to 1st Sept.; American Publishers' Circular, to 1st Sept.; Philadelphia Cosmos, Sept.

### Books and Pamphlets received during the Month.

*The Urine in Health and Disease* by Arthur A. Horsford, M.D. Churchill & Sons, New Burlington st., London.

*Progress of Ophthalmic Surgery* from the invention of the Ophthalmoscope in 1851 up to the present time, by Z. Lawrence, F.R.C.S., M.D. A Pamphlet.

*Ellis & Ford's Illustrations of Dissections*, parts 1, 2, & 3. Walton & Maberly.

*Test-types for the Determination of the Acute and Chronic Vision* by H. Snellen, M.D. P. W. Van de Weijer, Utrecht.

*Case of Puerperal Convulsions, complicated with Metrorrhœgia* by Archibald Hall, M.D. Edin. A Pamphlet. From the Author.

### Subscriptions paid since August 15th.

Dr. W. Marsden, Quebec; Mr. A. H. Baker, Coakwood, C. C. Claggett, Northfield, Vt.; J. B. Wheeler, N. H.; Dr. A. D. Proctor, Montreal; Dr. F. Violletti, Ely; Dr. A. Dykeman, Lacolle; Dr. B. E. Bunting, borough, Pa.; Dr. E. B. Sparham, Brockville.

### BIRTHS.

On the 13th Aug., the wife of Dr. Orutou, Fairview, castor, of a son.

### MARRIAGES.

At Stanstead, on the 18th Aug., by the Rev. J. T. Dr. J. W. Huntoon, to Ellen W., daughter of the Phineas Hubbard, Esq.

In this city, on the 3rd Sept., by the Rev. J. B. Bond, P. Campbell, Esq., M. D., of Athol. C. W., to Alice, daughter of the late Mr. James Bell, of Montreal.

The Canada Lancet is published monthly at the price of one dollar, (or four shillings sterling) per annum. Subscriptions may be made to W. E. Bowman, M.D., Editor, or to Mr. John Love, Proprietor.

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