

1. Never go, intentionally, beyond the limit of cutaneous insensibility.

2. The management of chloroform may be divided into three stages—before, during, and after the inhalations.

3. *Before: Counter-indications.*—Study the patient's constitution; find out whether there exists organic lesions of the heart or lungs: these would be a counter-indication, as are also asthma, aneurism, phthisis, chlorosis, anæmia, chorea, &c., and predisposition to cerebral congestion.

4. The patient's mind should be perfectly calm, and the medical attendant should speak of chloroform as a boon, when carefully administered.

5. The patient should be wishing for anæsthesia, and have full confidence in his medical adviser. If he should feel any apprehension or gloomy forebodings, chloroform should be steadfastly refused.

6. Patients have in all times died from the fear or pain of operations; but the influence of *fear* is now no longer taken into account, and chloroform accused of all the mischief.

7. Chloroform must never be given but for operations of a certain importance, and patients should be fasting.

8. Attention should be paid to the debility which naturally follows serious operations and considerable loss of blood, for the organism thus loses its power of resisting the influence of anæsthetic agents.

9. The operating-room should be of good dimensions, easy of ventilation, and every article necessary in case of danger should be at hand.

10. *During the Inhalation.*—Chloroform should be administered in hospitals by persons specially appointed for the purpose; and in town by practitioners who make it their exclusive occupation.

11. The quantity of chloroform given should be carefully measured, about fifteen minims being taken at once.

12. The length of time during which the patient is inhaling should be counted upon the watch, as also the pulse and the number of respirations. Note should be taken of the force and frequency of the pulsations of the heart; if the latter fall *below sixty*, the inhalation should be stopped.

13. The patient should be in the recumbent position, the head slightly raised by a pillow; and should be given doses of fifteen minims, the time between them being made gradually shorter.

14. The handkerchief should be first held at a little distance, and gradually brought nearer the face, the patient being spoken to in a kind and encouraging manner.

15. The latter should be frequently asked, whilst he is being pinched, what is done to him; and when he begins to answer with ill-humour, you pinch him, he is on the point of losing the faculty of sensation.

16. As soon as he answers no more, feeling is abolished; the handkerchief should immediately be taken away, and the operation begun, for we should never wait until muscular resolution is complete.

17. Excitement, which often marks the first degree, is a mark that the handkerchief should be *removed*, far from being kept on as is generally practised.

18. The time has now come to watch the heart and the respiration. On the slightest retardation, and if the symptoms of anæsthesia go on or are even increased, means should be immediately taken to bring back the insensibility to the first degree.

19. When spasms of the larynx or much cough occur, if foam come to the mouth, if the pulse falls, if breathing becomes embarrassed, if there appears any mark of syncope or cerebral congestion, the inhalations should at once cease.

20. Slight struggling may be resisted, but violent excitement and the exclamation of "I am choking," should be followed by the immediate removal of the handkerchief.

21. For long operations the inhalations should be intermitted, and the chloroform may be resumed as soon as the patient begins to sigh or move about. Anæsthesia has in this manner been kept up for one hour.

As to the means to be used in case of threatened death, M. Baudens enumerates most of those which were used in the two cases which we have adduced above.

**LEPROSY.**—The *Madras United Service Gazette* says, that Mr. Lepine, a surgeon of Pondicherry, has continued the experiments, originally commenced by Dr. Boileau, on the use of the "hydrocotyle Asiatica" in the treatment of leprosy. Dr. Lepine appears to be of opinion that a remedy has at last been discovered for this frightful disease, and that the plant exists in Pondicherry. Every patient to whom it has been administered has improved in health, and two have been nearly recovered.

## ON THE USE OF CHLOROFORM INHALATIONS IN THE TREATMENT OF CERTAIN CLASSES OF SPASM.

By RUSSELL REYNOLDS, M.D. Lond.

THE following cases are intended to possess little or no merit, as "clinical reports," and for this reason they are abridged as much as possible in respect of details which have no direct bearing upon the class of phenomena under consideration. They are recorded to illustrate the therapeutical relation of chloroform to certain groups of symptoms, rather than to indicate the value of those symptoms for the purposes of diagnosis or pathology.

The first case is that of a young lady, aged twenty, who had suffered for six or seven years from attacks of asthma. During this time her parents had consulted several physicians, and had followed closely the forms of treatment which they prescribed. The attacks, however, increased in severity, and were readily induced by changes in the weather, &c. The day before I saw her an attack commenced; throughout the night she had been in a state of orthopnoea, and epistaxis had occurred three times. The face was much swollen; the eyes scarcely visible; the dyspnoea and general distress were urgent; but there were no physical signs of disease to account for the symptoms.

Chloroform was administered in the following manner:—Twenty drops were placed upon the handkerchief, and inhaled from the distance of a few inches. As soon as the odour had disappeared, the same quantity was re-applied, and the inhalation maintained for ten minutes consecutively, repeating the twenty drops when necessary. Care was taken during the whole process that no stupefaction should occur. If any sign of such result presented itself, the handkerchief was withdrawn for two or three seconds. The inhalations were repeated every four hours. Little or no relief followed the first; but it was perceptible after the second, and gradually increased with each repetition until the noon of the following day, when, as she was absolutely free from dyspnoea, the inhalations were discontinued. The swelling of the face disappeared entirely, and there was no return of epistaxis. On the morning of the third day there was some slight return of dyspnoea, but it was immediately checked by one inhalation.

It is now nearly two years since the first use of chloroform in this case; and upon several occasions during that period an attack has been threatened, but has been at once averted by the inhalation of a few drops in the manner described above. The patient is apparently cured of her troublesome disease, or at least she has the means of relieving its most painful suffering.

Two cases, in persons of much more advanced age, have been treated in the same manner, and in each of them there has been similar success. In one the symptoms disappeared after three or four inhalations; and in the other the relief, though less rapid, was equally complete.

The opportunity of observing the effect of chloroform inhalation upon long-continued tonic spasm was afforded me not long since by Mr. William Squire, late resident-surgeon to the St. Marylebone Infirmary:—

Esther K—, aged thirty-eight, had for ten years suffered from painful rigidity of the right lower extremity. She states that it commenced in the thigh, and gradually extended to the leg, completely preventing all use of the limb. The right arm was occasionally affected in the same manner, and during the four or five weeks before my seeing the case the left side had become rigid in the same manner as the right. The patient described herself as suffering much pain in the limbs themselves, and still more in the lower dorsal and lumbar regions. She had been subjected to all the formidable array of counter-irritants, which are supposed to frighten such maladies away, and her spinal region bears the marks of numerous moxas, cuppings, &c. For several years she had been confined almost entirely to her bed, occasionally trying to move about with crutches, but never having been able to adopt the sitting posture, owing to the rigidity of the limbs. She lay perfectly flat upon the bed, and rigid as a board, from the occiput to the heels. Upon our attempting to raise the latter, she moved as if she was all in one piece. The greatest force which it was thought safe to exert was employed in vain to bend either the ankle, knee, or thigh. The legs were adducted forcibly, so that the knees were pressed together, the right being rather in advance of and higher than the left. It was thought that the right leg, from its long continuance in this posture, must have become fixed, and that it was hopeless to make much attempt for its improvement. However, partly for the sake of its

examination, and partly for the purpose of diagnosis, (as there was some supposition of exaggeration on her part,) it appeared to me desirable to remove consciousness and volition, and to accomplish this I suggested the use of chloroform. It was accordingly inhaled, and we were somewhat surprised to find that both limbs became perfectly flaccid, and could be moved at pleasure into any position that we chose. When the limbs were in this perfectly relaxed condition, reflex actions were readily obtained by the application of a heated plate to the soles of the feet. As consciousness returned, the spasm recommenced, and it did so before it could be asserted that distinct volition was exercised. The patient made inarticulate sounds upon being pinched; but could not, or at all events did not, make any attempt to answer questions, or to change the position of the limb. A second quantity of chloroform was then given, sufficient to relax the muscles, and the legs were placed in such a position that extension could not take place. Chloroform has not been inhaled again, as from some cause the muscular rigidity has not returned to anything like the same extent, and the patient now moves about with the aid of a crutch. There is some loss of power in both the legs, and loss of sensation in the right, but there is no spasm. To the present state of the patient and its diagnosis it is not my intention to refer. The only point to which I wish to direct attention is the effect of chloroform upon tonic spasm of such prolonged duration.

My friend Mr. Squire had under his care a most obstinate case of "hysterical knee." The leg had been kept at an acute angle for five years, and had resisted all attempts at extension. It was thought, from the firmness with which it retained this position, that at least ligamentous ankylosis must have taken place. The inhalation of chloroform proved, however, that such was not the case; for when consciousness and volition were in abeyance, the joint became perfectly flaccid, and the leg could be extended completely.

From these and some other cases, I am disposed to think that chloroform may be of much service in the examination, diagnosis, and relief of certain forms of spasm. It is a great assistance, sometimes, to remove volition, sensation, idea, and emotion from the field of investigation. Some spasms appear to be placed in curious relation with one or all of these centres of motor impulse, and to be, to a certain extent, dependent upon them. It is, perhaps, more probable that volition itself is in a morbid state, than that any intentional deception is practised. Ideas, as well as muscular movements, may be grouped abnormally. Sensations and emotions, in their exaggerated form, may be as real (so far as the patient, as a moral being, is concerned) as in any other case; for the absolute force of their external cause is but one of many concurring influences for the regulation of their intensity. There is a tendency to the grouping of muscular contractions; and by their frequent association, habits (of physiologic and pathologic character) are formed. It may be that, in the breaking of these habits, chloroform will prove of service.

The inhalation of an anæsthetic agent can do little more than relieve the symptoms, when there is, under-lying them, some organic disease; but in other cases, where the concatenation of such phenomena constitutes the whole disease, (or the whole which we are able yet to recognise,) it is possible that much more may be accomplished. For whilst in the former class we can only prevent some of the effects of morbid processes which are themselves beyond our reach, in the latter class we may remove the whole. Pathology has not yet advanced to the perfect discrimination of these two classes of disease; but there are grounds for hope that by the discovery and careful application of some experimental processes, we may be able to place the phenomena of nervous disorders among the class of objective symptoms. Were this accomplished, we should have the same kind, and perhaps eventually the same degree of certainty, in their diagnosis, that we have now with regard to diseases of the chest.

Grosvenor-street, Oct. 1853.

#### A CASE OF LITHOTOMY.

By ARTHUR J. CUMMING, Esq., Surgeon, Exeter.

In July last I was requested to see a child, aged four years and a half, the son of Captain P—, residing at S— Street, Exeter. He was suffering very severely from all the usual symptoms of stone in the bladder, and I was informed by his mother that for the last eighteen months his sufferings had gradually increased in intensity, so as almost entirely to confine him to the house. It appeared that on more than one occasion a small calculus, the size of a split-pea, had been

voided, and that he had at various times been under medical treatment. Having communicated to his parents my strong suspicion of the nature of his case, I proceeded in the early part of September to examine the bladder, and immediately detected the presence of a stone, apparently a small one.

On September 21st, having for a few days previously restricted him to a milk diet, I proceeded to perform the usual lateral operation, in which I was assisted by my friend, Mr. F. H. Warren. The boy was, however, in the first place, before any other step was taken, and whilst yet unsuspectingly lying in his mother's arms, brought under the influence of chloroform, administered on a handkerchief, and in this state was placed on a table and secured in the usual manner.

The staff having been introduced, I succeeded in cutting into its groove at the first incision, and subsequently employed a narrow-beaked knife to complete the first part of the operation. A calculus, weighing nearly three drachms, and composed principally of lithic acid, was readily extracted, and with my finger I ascertained that another, a small one, still remained, which I soon removed.

No untoward symptom of any kind occurred during the recovery of my little patient, and after the lapse of seventeen days the wound had entirely healed, and the child had begun to acquire a buoyancy of spirits and health to which he had been long a stranger.

I do not report this case as having any extraordinary or peculiar points, but rather to afford an additional evidence of the extreme value—the great blessing—of an agent which, whilst it renders the patient insensible to the pain otherwise inevitably attendant on every surgical operation, at the same time in great measure prevents that shock to the nervous system, frequently of itself so fatal, especially to young subjects. There is yet one other point, and not an unimportant one, that the feelings of the operator are not only spared, but in the absence of struggle or loud expression of agony he is happily enabled the better and more easily to fulfil his object.

Exeter, Oct. 1853.

#### ON AN INSTANCE OF TRIPLETS.

By J. LARDNER GREEN, M.R.C.S.E. & L.A.C.

ON the 13th of March, 1851, I was requested by her husband to visit Mrs. D—, who was ill, as he stated, with bowel complaint, remarking incidentally that as his wife was advanced in pregnancy, the otherwise trivial complaint required professional attendance. At two P.M. I found my patient reclining upon the bed, and, in answer to my inquiries, stated that she had experienced griping pains in the bowels and looseness since the preceding evening; that she was six months advanced in pregnancy, but was sure the pains she felt were in no way connected with that condition, and that her complaint was that of the bowels only. He acknowledged, however, she had not had frequent alvine evacuations during the night. On closely watching her, I found the pains came on in distinct exacerbations every few minutes, with intervals of ease. These, with other circumstances, led me to suspect that labour might at least be approaching; on therefore making an examination I found the soft parts relaxed; the os uteri low down, and dilated to the size of a half-crown piece, the membranes entire; a feet presentation, but unusually *masked* and indistinct. The membrane soon gave way, with escape of liquor amnii, when another bag of waters protruded from the os, and the presentation became more distinct; this, having given way, was immediately followed by the birth of the first (male) infant, feet foremost, at half-past three P.M. I next detected a bag of waters with the head presentation; as the pains were energetic, the second child, a female, was born in about twenty minutes after. Before another pain came on, I found a head presentation, but no bag of waters; the child, a male, was born in about ten minutes. The uterus, at first rather lax, by firmly grasping the hand over the abdominal parietes and a tight binder, contracted well. The placenta, a large triple one united at the edges, was readily removed at the usual time. The mother was much exhausted. I gave an opiate draught, and repeated it in four hours. The labour terminated at about half-past four P.M. The patient quickly rallied, and ultimately recovered perfectly. The three children, two males and a female, presented the characteristics of the sixth month of intra-uterine life. All died within an hour of their birth.

There are two curious particulars connected with this case: the first, that the bag of membranes of the infant last born should have over- (or, rather, under-) lapped the bag of waters of the child born first,—as the presentation of the third child