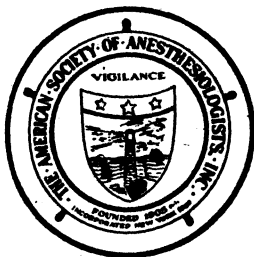


#1182

This Book is part of the  
COLLECTION  
of The  
AMERICAN SOCIETY  
OF  
ANESTHESIOLOGISTS, Inc.

---



Acknowledgment is made to

-----  
who  
presented this book to this  
Library and Museum.

*To Professor W. White  
with the Author's kind regards*  
A REPORT

MEa

MCg

UPON THE

# USE OF CHLOROFORM

IN

## FIFTY-SIX CASES OF LABOUR

OCCURRING IN

THE DUBLIN LYING-IN HOSPITAL.

BY

JOHN DENHAM, M.D.,

EX-ASSISTANT PHYSICIAN TO THAT INSTITUTION; FORMERLY LECTURER ON ANATOMY AND PHYSIOLOGY  
IN THE PARK-STREET SCHOOL OF MEDICINE.

---

FROM THE DUBLIN QUARTERLY JOURNAL OF MEDICAL SCIENCE FOR AUGUST, 1849.

---

DUBLIN:

HODGES AND SMITH, GRAFTON-STREET,

BOOKSELLERS TO THE UNIVERSITY.

1849.

Acc No. 1973

W0  
278  
C5  
D393  
RB

DUBLIN :  
PRINTED AT THE UNIVERSITY PRESS,  
BY M. H. GILL.

# REPORT,

&c. &c.

---

[Read at the Dublin Obstetrical Society, 4th January and 12th March, 1849.]

---

IN the year 1799, Sir Humphrey Davy, while boldly experimenting on himself, discovered the curious properties of nitrous oxide gas with which we are now so familiar.

In the Quarterly Journal of Science for 1818, we have an account of the effects produced by the inhalation of ether; and in the same article there is notice of a case where the incautious use of it was followed by very alarming symptoms.

In 1844, Mr. Horace Wells, an American dentist, had a tooth extracted from himself, and performed the same operation on others, without pain, while under the influence of nitrous oxide gas. He communicated the result of these experiments to Dr. Morton of Boston, who, in 1846, extracted a tooth from a patient while under the influence of the vapour of ether, and who declared that he was totally unconscious of its removal.

The value of this fact, which has lain so long dormant, having been thus discovered by our transatlantic brethren, its fame soon reached our shores, and it now ranks as one of the greatest improvements in operative surgery since the introduction of the ligature.

In January, 1847, Professor Simpson of Edinburgh administered ether for the first time in midwifery practice, and the

4 DR. DENHAM'S *Report on the Use of Chloroform.*

result, he states, was most satisfactory and most important. In November following, at the suggestion, it is stated, of Mr. Waldie, of Apothecaries' Hall, Liverpool, he employed a new anæsthetic agent (chloroform), which has since been almost exclusively used in surgery and midwifery.

Such is a brief outline of the history of anæsthesia. However much it may advantage the public, I fear it is destined, like many of our great discoveries, to prove an apple of discord to our profession. Some consider it of so little value that they will not even give it a trial, and in reply to the praise bestowed upon it, are ready to exclaim,—“a mountain in labour, a mouse is brought forth.” Others, again, while they do not entirely exclude it from practice, have drawn such a fearful picture of the evils likely to arise from its use, as to deter the boldest practitioner from ever having recourse to it, even in circumstances the most inviting. “Apoplectic stertor, convulsions, partial paralysis,” the blood blackened, the brain poisoned, and other still more formidable consequences, are amongst the number of the dangers mentioned as liable to be induced by the state of anæsthesia. A third class of practitioners, those in favour of chloroform, pronounce it to be a panacea for all the pains and penalties of childbed, and would have us believe that it not only insures the parturient patient a release from all present suffering, but escape from all subsequent danger, so that the dread of parturition may be for ever swept away from the list of objections to the married state among women.

During the later part of my residence in the Dublin Lying-in Hospital, as assistant physician, Dr. Shekleton, the present Master, with that laudable desire to advance the interests of the profession, and mitigate the sufferings of his patients, which has ever marked his course through life, requested me to carry on a series of observations upon this important and much-disputed question; and it is, therefore, to his kindness that I am indebted for being able to make the present communication. I may remark, in passing, that the subject was taken up without

the slightest intention of making out a case either for or against the use of chloroform. To discover where the truth lay was our only object; if in addition to this we are enabled to reconcile some of the conflicting opinions, remove preconceived notions and prejudices, and expose some errors into which those who are perhaps too enthusiastic in their praise, and too indiscriminate in their use of anæsthetic agents, may have fallen, we shall have more than accomplished what we propose.

I approach the subject with diffidence and fear. With diffidence lest I may appear opposed to men whose opinions I have been at all times accustomed preeminently to respect; with fear, from a consciousness of my inability to do justice to the subject, and being deeply impressed with the responsibility that attaches to him who would take up the discussion of so important a question. I am encouraged, however, by the circumstance that I have principally to deal with facts, and give the result of cases noted with the greatest care and accuracy, and taken, moreover, in the presence of many intelligent pupils, whose anxiety to arrive at the truth renders this report, if not conclusive on the subject, at least worthy of credence.

The patients on whom the observations were made were generally healthy, but in no instance did we select them as being likely to prove favourable or the reverse to the use of chloroform; nor did we in any case administer it where we had reason to suspect the existence of organic disease in any vital part. We gave it:

- 1st. To produce insensibility during operations.
- 2nd. To relieve intensity of suffering.
- 3rd. To quiet particularly noisy patients.
- 4th. By way of experiment, in ordinary cases, where we had no very definite object in view.

If asked to define anæsthesia, I think we might fairly describe it as a scientific form of intoxication, the effects of which very soon pass away. It may, therefore, be questioned, how far we are right, in a moral point of view, in producing such a

6 DR. DENHAM'S *Report on the Use of Chloroform.*

state, even for the purpose of allaying pain. The scriptural objections have been so fully answered by others, that it is unnecessary to dwell upon them here.

The object proposed in giving it, in operative surgery and midwifery practice, is in some respects the same. In both we administer it with a view of saving our patients a certain amount of pain, and lessening the shock of an operation, or that consequent on the birth of the child; this is not only a present advantage, but it generally exercises a happy influence on the recovery of the patients.

In both cases we incur a certain amount of present danger, and, perchance, of remote ill effects. That there is present danger, the history of surgical cases, where it has been used, fully proves; but it is a remarkable fact, that scarcely one well-authenticated, immediately fatal case in midwifery practice has yet been recorded,—certainly not one has occurred in this country,—nor have we witnessed any very alarming symptoms directly traceable to its effects, when administered for this purpose. With the remote ill effects in surgical cases I am not conversant; but so far as my experience goes, I know of none in midwifery, either to mother or child. We have further to consider its direct and immediate influence on the process of parturition, which brings us directly to the object of this paper.

When a patient in labour is first brought under the influence of chloroform, it will generally be found that the pains are diminished in force, frequency, and duration. After some time they generally regain much of what they had lost, and though apparently weaker, they yet seem to tell with equal or even better effect upon the progress of the labour. The muscles of animal life are first affected, and if a complete state of anæsthesia be induced, the action of the uterus is also impaired. If the chloroform be suspended for a short time, both sets of muscles soon regain their usual power. The effect upon the sensorium is very variable; some pass rapidly into a state of insensibility, while others become boisterous and difficult to manage; but in all who can be induced to use it sufficiently



long, it appears to mitigate the feeling of pain, to modify the impression, or remove the recollection of it. The pupils remain natural during the first or excitable stage, but when anæsthesia is fully induced they almost invariably become dilated. Of its effects upon the os uteri I cannot speak very confidently, as we seldom gave it in the first stage of labour; so far as I have seen, however, I believe it does not retard, but rather tends to promote dilatation of it. That the vagina and os externum become relaxed there cannot be a doubt. We did not remark the perinæum to yield more in proportion than the other soft parts. In no case did we witness injury to the child, even in the remotest degree.

The cases of natural labour, in which chloroform was administered in the Dublin Lying-in Hospital, may, I think, be divided with advantage into three classes:

1st. The ordinary every-day case, in which the labour was short and comparatively easy, and where the patient would have soon got well whether we gave it or not.

2nd. Cases where some interference was necessary, and where the chloroform was given with marked advantage, causing the labour to advance, while at the same time it saved the patient from a very considerable amount of suffering.

3rd. Cases in which the chloroform appeared to be not only useless, but, when persevered in, positively injurious. I shall give a few cases in detail illustrative of what has been said, and conclude this part of the subject with some general remarks upon each of the three classes just alluded to.

#### CASES OF SHORT AND EASY LABOUR.

CASE I.—Anne Flood, aged 30, a stout, healthy-looking woman, admitted into hospital in labour of her fourth child. The chloroform was not administered until the second stage of labour had commenced; she soon became affected by it, and although there was very little muscular effort, still the labour went on favourably, and she was delivered of a male child just

8 DR. DENHAM'S *Report on the Use of Chloroform.*

one hour from the time she became insensible. She had a good recovery, and went home well on the eighth day.

CASE II.—Ellen Carroll, aged 26; fourth pregnancy. Her labour set in at 5, A. M., the waters coming away nearly at the same time. At half-past 8 the os was fully dilated, and at twenty minutes past 9 the head was pressing; pains strong, with intervals of two minutes; pulse 96. She was now put under the influence of chloroform, and the child was born forty minutes after. While in anæsthesia the intervals were lengthened, and the pains became somewhat weaker, but the three or four last were very strong indeed. The intervals were one minute, four, eight, four, six, three, and one, making an average of three minutes. She had an excellent recovery, and went home well on the eighth day.

CASE III.—Ellen Doyle, aged 27; third pregnancy. On admission the os was fully dilated, and the membranes ruptured. She was very easily thrown into a state of anæsthesia, and the labour was completed in little less than one hour after. She was only five hours ill, and had a most excellent recovery.

CASE IV.—Eliza Hill, aged 30, third pregnancy. Labour set in at 2, A. M., and the first stage was completed at 10 o'clock. Observations were taken from twenty minutes after 10 till twenty minutes after 11, during which the occurrence of the pains averaged from two to three minutes, and were, with scarcely an exception, strong and effective. At twenty minutes past 11 she was put under chloroform, when the intervals became lengthened, and the pains weaker; after some time they again increased in frequency, but not in force. I shall just give a few of the notes taken at the time: "Some wandering; anæsthesia fully induced in ten minutes; pains very slight; head advancing; no voluntary action; small scalp tumour protruding between labia at each pain. Twenty minutes after 12, pains very weak. Thirty-seven minutes after 12, pains stronger, but with very little advance to labour. Forty-five minutes after 12, chloroform discontinued; some voluntary action; bearing-down pains; chlo-

roform resumed; patient very completely under its influence. Thirty minutes after 1, head expelled; child born; placenta came away twelve minutes after; uterus contracted well." She was aware of the birth of the child, but felt no pain; recovery good; went home well on the eighth day.

CASE V.—Ellen Hicks, aged 22, delivered while in a state of anæsthesia; the pains were diminished both in frequency and force, but the labour was short, and terminated favourably. She went home well on the eighth day.

CASE VI.—Julia Dolan, aged 30; second pregnancy; history same as the last; her recovery was also good; and she was discharged well on the eighth day.

CASE VII.—Catherine Flynn, aged 24, first pregnancy; labour commenced at noon on the 17th, and the first stage was completed at 9, A. M., on the 18th; the pains were then strong, lasting for about a minute, with an interval of six; pulse 120. At forty-five minutes after 9, chloroform was given, and in five minutes it produced great excitement, with some nausea; pulse falling to 108. At ten minutes past 10 anæsthesia fully produced; vomited some bilious matter; had a slight rigor at thirty minutes after 10. She was now kept only partially under chloroform; her consciousness returned, and she answered questions correctly. 11 o'clock, chloroform entirely stopped for a while; pains much stronger; complains of thirst; head now distends perinæum at each pain. 12 o'clock, chloroform again given, but not to the full extent; some voluntary muscular action; pains more effective; cries out with them, but sleeps calmly in the intervals. Thirty minutes after 12, more completely under chloroform; head expelled by a very sudden strong pain, without a cry; birth completed at thirty-eight minutes after 12, by another pain: placenta came away, and was followed by some hemorrhage. This patient was three hours all but seven minutes under the influence of chloroform, but not completely, as she was quite conscious of the birth of her child,

10 DR. DENHAM'S *Report on the Use of Chloroform.*

but declared that she felt no pain. She recovered favourably, and was discharged on the eighth day.

Such is a brief outline of a few cases of natural labour, where, the parts being soft and cool, while, at the same time, there was an abundance of room, the patients were "made well" while under the influence of chloroform, with a very happy effect. Five of them denied all consciousness of pain, and several of them were ignorant of the time when their children were born. Doubtless, these women, if left to nature, would have had an easy and safe delivery, followed by a good recovery, and in some the labour would probably have been completed in a somewhat shorter space of time; but, on the other hand, we cannot, we ought not, to conceal from ourselves the fact, that they escaped a considerable amount of pain and mental anxiety, and that they all had good recoveries, without a single bad symptom, either at the time or subsequently.

The following cases are examples of the second division of natural labours which we have made, and in which the good effects of chloroform were more decidedly evident.

CASE VIII.—Catherine M'Loughlin, aged 18. She had been twenty-one hours in labour before admission; on examination the head was found low in the pelvis; the pains were almost constant, but the labour was not making much progress, nothing at least in comparison to the severity of the pains, each of which were accompanied with loud screams, and constant complaints of intense suffering; pulse in the intervals only 72. Chloroform was administered, and she was kept completely under its influence from seven minutes after 9 till thirty minutes after 10, when her child was born; in fact, the moment we relaxed in the slightest, she became so violent and unmanageable as at once to require a repetition of the chloroform. I shall give a few of the notes taken at the time: "Pulse 72, intermitting; stertor in four minutes from first inhalation; in seventeen minutes pulse rose to

94, regular; complete anæsthesia in forty minutes; pulse 120 during the pain; awoke and struggled violently; chloroform resumed at sixty minutes; pains short and strong; at one hour and thirty minutes, struggling violently again, more chloroform given; each inspiration is followed by an expulsive effort; child born in ten minutes after; placenta was soon expelled; no hemorrhage. In half an hour after she was perfectly sensible, and expressed a total unconsciousness either of pain or the birth of her child." She recovered without a single bad symptom, and went home well on the eighth day.

CASE IX.—Julia Dolan, aged 30, second pregnancy. The first stage of labour passed over quickly, but she was restless and fretful, complained much of her back, and bore her pains, which were now constant and strong, badly; they averaged three in every five minutes. She remained in this state for several hours, without making any perceptible progress, the head still remaining high up. She was now put under the influence of chloroform, but with some difficulty; eighteen minutes elapsed before it took any effect, during which she inhaled two drachms; she now talked incoherently, and became insensible, but without any approach to stertor. The pains diminished both in frequency and force, while the labour rapidly advanced, and the child was born just one hour from the time she commenced the chloroform. Pulse 80 during the time of inhalation; immediately after the birth of the child, it fell to 70. The pains, before the chloroform was given, averaged one in less than every two minutes; while under it, the intervals, with one exception, were from five to ten minutes. The quantity of chloroform consumed was very large, six drachms in the hour. She had no pain during the time, and knew nothing of the birth of her child: she went home well on the eighth day(a).

(a) Since writing the above I met with a case in private bearing upon this part of the subject. I was sent for to attend Mrs. B., who told me that her labours were always tedious and severe; she had been complaining for several hours before I saw her. I found the os fully dilated, and the soft

12 DR. DENHAM'S *Report on the Use of Chloroform.*

The patients in this form of labour are often of a nervous temperament, with great irritability of fibre. The delay does not arise from inertia or disproportion, and yet, although the pains are severe and constant, the labour is tedious. The prospect in such cases is by no means cheering; hours of anxious waiting, during which we are importuned by the friends, and perhaps unnerved by the sufferings of our patient, generally ensue. In such cases chloroform will be found a very valuable remedy, particularly when the delay is in the second stage.

Opiates, it is true, often benefit such cases; but to insure their effect they must be given in large doses, when they generally produce a complete suspension of all uterine action, perhaps for hours, while we can regulate the giving of chloroform so as only to allay the irritability of fibre, and quiet any unusual suffering, without interfering for any great length of time with the progress of the labour. In the cases here given, it will be seen that the pains, while apparently diminished in frequency and force, yet produced a better effect, and hastened on the labour.

We now come to the third class or variety of natural labours, namely, that in which chloroform appeared to be not only useless, but, when persevered in, positively injurious. I shall mention a few cases illustrative of this point.

CASE X.—Margaret Coyle, aged 30; fourth pregnancy. On admission the os uteri was fully dilated; pains very strong and severe, but with little advance. She states that all her former labours were tedious and severe. She was put under the influence of chloroform, but the pains soon became weak, and at the end of an hour ceased entirely; the chloroform was now

parts relaxed, with a good roomy pelvis. As the pains were strong and regular, I began to congratulate myself upon a speedy release, but in this I was disappointed, as the labour scarcely made any advance. After several hours the head passed into the pelvis, but the cramps in the leg were now so severe that her screams were heard over the whole house. She was, therefore, put under the influence of chloroform, and with the happiest effect, as it not only put a stop to the cramps, but caused the labour to advance much more quickly.

left off, soon after which the pains increased to such a degree that we began to dread rupture of the uterus, especially as one of her former labours had been instrumental. She was, therefore, again put under the influence of chloroform, when the pains subsided, and she was safely delivered by the forceps; child living; no hemorrhage; recovery good. It is worth remarking that she had a rigor on both occasions immediately after recovering from the state of anæsthesia; but no other constitutional disturbance followed, nor did the rigors in the least seem to retard her recovery. It is the only instance of the kind we met with, and we are therefore inclined to look upon it as an idiosyncrasy.

CASE XI.—Eliza Lawler, aged 23; first pregnancy. On admission the os was nearly fully dilated, soft parts relaxed, pelvis normal; pulse 66 in the intervals, 90 during the pain; pains constant and regular. The state of anæsthesia was soon induced, and easily kept up, as she only required four drachms of chloroform in two hours. In twenty minutes after she began to inhale she appeared to be almost in a state of coma; some cold water was then sprinkled on her face. The pains gradually diminished, and at the end of two hours had almost entirely ceased. The chloroform was now discontinued, when the pains again returned with considerable force, and the child was born in half an hour from the time she ceased to be under the influence of it. On being questioned afterwards she stated that she remembered everything that had been done to her, such as the cold water being dashed on her face, her feet being pricked and tickled, &c.; says that she slept very little during the time, and doubts whether she would wish to have it again or not.

CASE XII.—For the notes of this case I am indebted to Dr. Shekleton; it is taken from his private case-book: "I was called in October last, six miles from town, to see Mrs. R., in her first labour, then under the care of a medical gentleman in the neighbourhood. He informed me that his patient had been in the hands of an ignorant midwife for upwards of twenty-four hours

14 DR. DENHAM'S *Report on the Use of Chloroform.*

before he saw her, and, finding what the case was, he sent for me immediately. On going up the avenue leading to the house, I distinctly heard the lady's screams, and fancied she was on the eve of getting well; on examination, however, I found it was a face case, the chin partly protruded, and looking towards the pubis; the features of the child were so swollen and distorted by the rude fingering of the midwife, that, except for the chin, they could not be recognised; the vagina was hot and tender from the same cause; and the perinæum hard and rigid, partly owing to the advanced age of the lady, 36, and to her habit, perhaps, of hunting regularly during the season. The pains were powerful, and evidently advancing the labour, though slowly. Instrumental assistance, from the state of the parts, was out of the question, and I determined to try the effects of chloroform, to mitigate, if possible, her agonizing screams, which accompanied every pain. She was speedily under its influence, talked at first of hounds and horses, and laughed immoderately, and it decidedly put an end to her expressions of agony; but the labour pains nearly ceased, and for two hours and a half that I kept her in a state of anæsthesia more or less profound the child never advanced. I therefore finally abandoned it altogether, and with the happiest results, for the pains speedily resumed their efficacy, the screaming never returned, and the child was born alive in three hours from the time the chloroform was relinquished.

CASE XIII.—Mary Sheehan, aged 28; first pregnancy. She was put under the influence of chloroform when in the second stage of labour, the pains at the time being regular and the child advancing; at the end of fifty-three minutes we were obliged to discontinue it, as the pains had almost entirely ceased. Soon after this they again returned, and the child was born in two hours; the placenta soon came away; but at the end of six hours after delivery there was some hemorrhage, not, however, to any extent. Her recovery was tedious, and she did not leave the hospital until the twenty-fourth day.



CASE XIV.—Margaret Johnson, aged 31; fifth pregnancy; arm presentation. She was put under chloroform, when turning was effected with great ease; uterine action was completely put a stop to, and did not return after the feet were brought down. We were, therefore, obliged to discontinue the chloroform; the pains soon returned, and the labour was completed in a short time. Child born alive; no hemorrhage. Discharged well on the eighth day.

Cases of this kind are generally met with among what are termed difficult labours; painfully difficult to the patient, and often distressingly tedious to the practitioner, requiring an amount of experience and patient perseverance greater than any other in the whole range of obstetric practice. It is not deformity, but disproportion, with, perhaps, rigidity of the soft parts in first cases, that we have principally to contend with. The pelvis will be found somewhat under-sized, or the head of the child may be either too large or too much ossified. The advantage to be gained from the chloroform in such cases will not be found an adequate compensation for the loss of power sustained in the muscles of animal or organic life; and were we to continue its use, I do believe that the patients would remain (doubtless in a state of blissful oblivion) undelivered for hours, or even days. It may, however, be fairly argued,—“why not give it a trial? The delay may, perhaps, arise from rigidity, or some slight amount of disproportion; and even should the pains be weakened, or put a stop to for a time, yet no other injury is likely to arise, while some of the cases given clearly go to prove that the pains, though weakened at first, yet came on more vigorously, and with better effect, after the use of chloroform than before.” This we admit, but, confining ourselves to the immediate and direct effects of anæsthetic agents, I think we are warranted in coming to the conclusion that chloroform, if persevered in, will sometimes prove not only useless but positively injurious.

Such is a brief outline of fifteen cases of natural labour, in

16 DR. DENHAM'S *Report on the Use of Chloroform.*

which chloroform was administered; and I think we are taught by them that it will be found applicable to many cases, useless in some, and injurious to a few. I am persuaded we have much to learn upon the subject; much to learn (apart from all professional notoriety and eclat) as to when we should begin to administer it, and when refrain from its use; what the best mode of using it, and how great the quantity that may be given, so as to mitigate the sufferings of our patients, and yet not interfere with the progress of the labour; much, in fact, to learn as to the cases in which it will be found not only admissible, but really useful; not to speak of the question of time, so important, so intrinsically valuable, to the medical practitioner. If the question be put,—do you use chloroform in all cases of natural labour? I answer, certainly not; first, because many labours are so rapid, and attended with so little pain, that either it is unnecessary, or there is not sufficient time to produce the desired effect. It not unfrequently happens, that the child is born before the medical attendant can possibly reach his patient.

Some women object to its use, and unless there be a very urgent necessity, I think we should never press it on an unwilling patient, for, should any untoward circumstance arise, the chloroform will be sure to get the credit of it. In the next place, the cases that apparently require it most,—tedious and difficult labours,—are those where it often appears to be injurious, by weakening the pains, and relaxing the muscles of animal life. But, on the other hand, I must say that I have never met with a single untoward circumstance affecting the health or life of either mother or child, that would in the slightest degree deter me from giving it where I thought it desirable or necessary. I have never witnessed any of the dreadful evils described by some writers as consequent upon its use; I have never seen the blood blackened, or the brain poisoned; nor has it ever, in my hands, induced convulsions, partial paralysis, or other still more formidable consequences; and until it does I

will consider myself justified in still further investigating the subject, ever bearing in mind the maxim of Lord Bacon, that the labours of all who think ought to be to multiply human enjoyment and to mitigate human suffering; and that, for this purpose, we must observe and reason only from what we see.

We have yet to give the result of our experience in preternatural, instrumental, and complex labours; and this part of the subject I approach with much more of pleasurable feeling, because that here I anticipate no difference of opinion, nor will we require either eloquence to adorn or argument to enforce the practical points to be elucidated; the mere recital of the cases will, I am sure, carry conviction to every candid mind.

#### PRETERNATURAL LABOURS.

Preternatural presentations of the upper extremities are at all times dangerous, as they call for a difficult and hazardous operation, involving, perhaps, the life of both mother and child; an operation which the most experienced practitioner undertakes with no small degree of anxiety, deeply impressed, as he must be, with the responsibility thrown upon him at such a time. It requires judgment and skill to know how to conduct such a case, when to interfere and when to remain passive; and he who undertakes it requires a clear head and a steady hand. How sad the fate of a patient in such circumstances who falls into the hands of a bold, untaught practitioner, who, ignorant of the dangers by which he is surrounded, and unmindful of the sacred charge committed to his trust, blindly rushes on to his own disgrace and the ruin of his hapless victim. How should we rejoice in the prospect of any remedy calculated to lighten the difficulties and lessen the dangers by which every such case is surrounded. Such an agent I believe chloroform to be; for if there is one operation more than another, in the whole range of midwifery, in which it is highly useful, it is that of turning; and if the discoverer of it accomplished nothing

18 DR. DENHAM'S *Report on the Use of Chloroform.*

more, he has by this alone conferred a great benefit upon mankind, and largely earned the gratitude of his profession.

CASE XV.—Margaret M'Cormick, aged 22; second pregnancy. Two days ago she was suddenly seized with a severe flooding, which again came on early this morning. On examination it was found to be a case of partial placenta prævia, and as there was still some hemorrhage, the membranes were ruptured. At the end of six hours the os had considerably dilated, but the head was very high up, and, as there was still some draining, which greatly exhausted the patient, she was put under the influence of chloroform, and delivered by turning, with great ease. The child was still-born, she had no after hemorrhage, and her recovery was good, considering the amount of blood lost; she went home well on the sixteenth day.

CASE XVI.—Martha Reddy, aged 24; fifth pregnancy; a twin case. The first child a head, the second a shoulder presentation, but the pains were so strong and frequent in the latter, that I found it impossible to introduce my hand. She was now put under the influence of chloroform, when all became passive, and turning was accomplished with the greatest possible ease, the child being born alive. She had no hemorrhage, and went home well on the eighth day.

CASE XVII.—Anne Donelly, aged 34; fourth pregnancy. Elbow presentation; she was put under the influence of chloroform, and delivered by turning; child alive; no hemorrhage; discharged well on the eighth day.

CASE XVIII.—M. M'Guinness, aged 27; second pregnancy; twin case; the first child presented a breech, the second a shoulder. Delivery in the latter was effected by turning, the mother at the time being in a state of anæsthesia. Both children were born alive; no hemorrhage; discharged well on the twelfth day.

CASE XIX.—E. Mulrooney, aged 36; second pregnancy; had been thirty hours under the care of a midwife. The arm and funis were both protruding through the os externum on

admission; the funis had ceased to pulsate, and the patient herself was in a very exhausted state. She was put under the influence of chloroform, and delivered by turning, with great ease; child still-born; no hemorrhage; recovery excellent; she went home well on the eighth day.

CASE XX.—Mary Lynam, aged 35; eighth pregnancy; shoulder presentation. As soon as the os was fully dilated she was put under the influence of chloroform, and delivered by turning; child born alive; no hemorrhage; discharged well on the eighth day.

CASE XXI.—Anne Stephenson, a soldier's wife, aged 25; first pregnancy. States that her labour commenced on the previous day, while travelling from Limerick to Dublin by railway. It was found to be an arm presentation; membranes had ruptured, and the hand was in the vagina. Chloroform was then administered, but she was very slowly affected by it. While inhaling, the pulse became very weak, and she gave no signs of consciousness; the chloroform was therefore discontinued as soon as turning was effected, which was easily accomplished: but great difficulty was experienced in extracting the head, which ultimately had to be lessened by the perforator.

Immediately on the birth of the child the respiration of the patient ceased, and the pulse became imperceptible, but whether from exhaustion or the influence of chloroform we could not say. The application of cold water to the face, and patting her on the cheek, soon revived her, and she went on favourably for some days; but diarrhœa, with extensive inflammation of the mucous membrane of the ileum, set in, and she died on the fourteenth day after delivery.

CASE XXII. Margaret Sidebotham, aged 30; second pregnancy; elbow presentation; delivered by turning, while under chloroform; child alive; no hemorrhage; recovery good. Discharged on the eighth day.

CASE XXIII.—Catherine Whelan, aged 24; first pregnancy; elbow presentation; delivered by turning. This woman could

20 DR. DENHAM'S *Report on the Use of Chloroform.*

not be got under the influence of chloroform; it neither produced insensibility, nor did it diminish the severity of her sufferings from the labour pains or during the operation. The child was born alive. She had no hemorrhage, and was discharged well on the ninth day.

To the foregoing I may add the following case, which occurred in private practice :—

CASE XXIV.—In April, 1848, I was sent for some miles from town to see Mrs. M. I found the arm protruding through the os externum, and learned that she had been in this state for some hours before my arrival. She was immediately put under the influence of chloroform, and delivered by turning. She was in a perfect state of anæsthesia at the commencement of the operation, but, not having a person present who knew how to administer the chloroform properly, consciousness returned just as the child was being born. She had no hemorrhage, and her recovery was good.

Such is an outline of ten cases of turning, upon which I scarcely feel it necessary to make any observations, so well do they themselves testify to the good effects of chloroform in all such cases. Three of the children were still-born, but the chloroform is in no way chargeable with their death, as in one case, that of partial placenta prævia, the child evidently perished from the loss of blood sustained previous to delivery.

In Mulrooney's case, No. XIX., the funis came down with the hand, and had ceased to pulsate before she came into hospital. Had we been ignorant of the use of chloroform, it is probable that delivery would have been effected in this case by eviscerating the chest, a most disagreeable operation, exceedingly distressing to the patient, and disgusting to the attendants. In the third case, that of Stephenson, No. XXI. it was necessary to lessen the head, and of course chloroform was not the cause of death. In this case a question may arise respecting the state of syncope which came on immediately after delivery; was it induced by the chloroform, or the result of exhaustion after the

operation, in a frame naturally delicate, and much weakened by previous fatigue and anxiety of mind? This is a point we cannot determine, but the impression made at the time was, that the chloroform had an influence on it, at least to some extent; and that it had no part in ultimately causing death, the *post mortem* appearances fully proved. No case that I have ever witnessed impressed me so deeply with the advantages of chloroform, as that of Reddy, No. xvi., one of the twin cases. When I first attempted to turn I completely failed, owing to the strength and frequency of the pains, but the moment the state of anæsthesia was induced, all resistance ceased, and the operation was accomplished with perfect ease.

Such is our experience of chloroform in cases of turning; and so completely is the Master of the hospital impressed with the value of it, that he administers it before turning as regularly as he should employ the perforator before extracting with the crotchet.

We now come to instrumental deliveries, comprising crotchet and forceps cases; and here I must apologize for detailing so many cases, all so much alike, but nothing short of this would do justice to the subject.

#### CROTCHET CASES.

CASE XXV.—Bridget Clinton, aged 38; first pregnancy; labour tedious; delay in the first stage from rigidity of the os uteri, and in the second from want of space. The ordinary remedies failing, and the foetal heart having ceased to pulsate, she was delivered by the crotchet while in a state of anæsthesia, after having been sixty hours in labour. Her recovery was good, and she was discharged well on the eighth day.

CASE XXVI.—Rose Conlan, aged 36; first pregnancy. First stage of labour remarkably slow; os not dilated for first forty-eight hours. The second stage ran on for twenty-four hours longer; delay arose from inertia and disproportion, the

22 DR. DENHAM'S *Report on the Use of Chloroform.*

pains being weak, while, at the same time, the head was so impacted that the forceps could not be introduced. She was, therefore, delivered by the crotchet while in a state of anæsthesia, after having been seventy-two hours in labour. Her recovery was good, and she left the hospital well on the eighth day after delivery.

CASE XXVII.—Catherine Lalaway, aged 34; third pregnancy. States that both her former children were still-born. There is some deformity of the pelvis, apparently the result of disease. After being seventy-two hours in labour, the head all the time remaining above the brim of the pelvis, she was delivered by the crotchet. Great difficulty was experienced in getting down the head, the patient all the time complaining of the pain induced by the extractive force used. At this stage of the operation she was put under the influence of chloroform for the first time, and with the happiest effect, as it not only relieved the sufferings of the patient, but relaxed the soft parts, and facilitated the delivery to an extent that could not have been anticipated. She had no hemorrhage; her recovery was good, and she went home well on the eighth day. I should remark that her labour was not continuous or severe, nor was it attended with any constitutional disturbance.

CASE XXVIII.—Rose Ward, aged 37; tenth pregnancy. The funis came down with the head, and had ceased to pulsate; she was, therefore, delivered by the crotchet while under the influence of chloroform, after being twenty hours in labour. No hemorrhage; discharged well on tenth day.

CASE XXIX.—B. Brown, aged 19; first pregnancy. First stage of labour, which had lasted fifty-two hours; delay from rigidity of the os, apparently brought on by too early rupture of the membranes. When in the second stage, the pains being weak, two doses of ergot were administered, but without effect. She was then put under the influence of chloroform, and delivery was attempted by the forceps, but it could not be passed



up. She was, therefore, delivered by the crotchet while in the state of anæsthesia. No hemorrhage; discharged well on ninth day. She was altogether sixty hours in labour.

CASE XXX.—Alicia Higgins, aged 30; first pregnancy; forty hours in labour; delay in second stage from want of space. She was put under chloroform, which had the effect of weakening the pains; she then got three doses of ergot, but with little effect; there was very little increase of pain, nor did the child make any advance. The forceps were now tried, but the blades could not be passed up. At the end of twelve hours, the child being still alive, the forceps were again tried, but in vain; and as the woman appeared exhausted, while at the same time the foetal pulsations were scarcely audible, delivery was effected by the crotchet, the state of anæsthesia having been again induced. Her recovery was slow, and she did not leave the hospital until the sixteenth day after delivery.

CASE XXXI.—W. Freymouth, aged 34; first pregnancy. The pains weak; labour very slow. Stimulating enemata and ergot of rye were given, but without effect. The foetal heart having ceased to pulsate, she was delivered by the crotchet, while under the influence of chloroform. Her recovery was very slow, and she did not leave the hospital until the twenty-second day after delivery.

CASE XXXII.—Maria Byrne, aged 28; first pregnancy; tedious labour; delay in second stage from inertia. She was put under the influence of chloroform, which neither increased nor diminished the uterine action. Ergot was then given, when the pains increased considerably, both in frequency and force, but without any advance in the labour. The foetal heart soon ceased to beat, and she was then delivered by the crotchet. She had a good recovery, and went home well on the ninth day.

CASE XXXIII.—Sarah Timmins, aged 28; fourth pregnancy. Hemorrhage came on in the second stage of labour, when delivery was attempted by the forceps (the patient being under

24 DR. DENHAM'S *Report on the Use of Chloroform.*

the influence of chloroform), but failed, as the head was tightly impacted; the state of anæsthesia being still kept up, delivery was effected by the crotchet; no hemorrhage followed; convalescence tedious: discharged on the twenty-fifth day.

CASE XXXIV.—Jane Leeson, aged 22; first pregnancy. This woman was in a state of great debility from want of proper sustenance; labour tedious; when thirty hours in labour, foetal heart not being audible, chloroform was administered, and she was delivered with the crotchet. Peritonitis set in on the second day, and she died on the sixth.

CASE XXXV.—Anne White, aged 30; second pregnancy; was brought from the country after having been thirty-two hours in labour. The bladder was so distended as to reach above the umbilicus, and a slough had already formed at the neck of it. She was put under the influence of chloroform, and delivered by the crotchet; no hemorrhage. She is still in hospital for vesico-vaginal fistula, the result of the sloughing.

CASE XXXVI.—Mary Kane, aged 18; first pregnancy. A small, deformed woman, with angular curvature of the lumbar vertebræ; sacrum very straight, and the pelvis much deformed. After being twenty-three hours in labour, chloroform was given, and she was delivered by the crotchet with considerable difficulty. No hemorrhage followed, but peritonitis supervened. How the case terminated we cannot say, as she was forcibly removed from hospital by her friends on the seventh day.

On these cases in which delivery was effected by the crotchet, while the women were in a state of anæsthesia, we have scarcely a remark to make. The necessity for using it is not so great as in forceps cases, neither, perhaps, are the advantages so obvious, as the operation can generally be performed without much pain to the patient, and, in careful hands, with a very small amount of danger; at the same time, when we take into account the mental anxiety inseparable from such an occasion, and when we reflect how injurious any shock, mental or bodily, may then prove, I feel assured that we will seldom err

in using chloroform, and that in the great majority of such cases it will be found a valuable adjunct in rendering the patient more manageable and the operation more easily performed, independent of any advantage it may possess with reference to ultimate recovery. In two of the crotchet cases, the patients were attacked with puerperal fever, one of whom died in hospital, and the other was forcibly removed by her friends, as already stated. Its effect in the case of Lalaway, No. xxvii. who had deformity of the pelvis, was very striking. It was not given until great difficulty was experienced in bringing down the head with the crotchet, the patient at the same time complaining greatly of the pain produced by the traction. At this stage of the operation she was thrown into a state of anæsthesia, after which the head was brought down with about one-half the force that had been previously used, and without any pain to the mother. The rapid recovery of the patient proved that no undue force had been used, and that the soft parts had not been injured. In none of these cases had we hemorrhage to contend with, nor did any untoward symptom arise, either at the time of the operation or subsequently, that could be ascribed to the chloroform. There is one other point that I would here wish to direct attention to, namely, the giving of ergot with chloroform. In some of the cases this practice was adopted, and in one or two with marked effect, as it produced a decided increase in the pains, though not sufficient to complete the labour. The same practice was adopted in other cases, not now under consideration, with the best results; and in no case did it seem to do harm. Combining ergot of rye with chloroform may, therefore, be considered both safe and judicious where circumstances call for it(a).

(a) Since this paper was read before the Obstetric Society, Professor Beatty confirmed the value of the practice by reading some cases of a similar nature to the Society.

## FORCEPS CASES.

CASE XXXVII.—Bridget Kelly, aged 36; fifth pregnancy; states that she has always had tedious and difficult labours. The pains were very violent, but with little advance in the labour; she continued much in the same state for some hours, when chloroform was administered; the pains then became less severe, but by no means more efficient; and the head being now in the pelvis, she was delivered by the forceps, with some little difficulty. Child born alive; no hemorrhage; recovery good.

CASE XXXVIII.—Eliza Hughes, a weak, delicate-looking woman; first pregnancy. The pains were weak, and the labour slow, with very little prospect of any improvement. At the end of thirty hours she was delivered by the forceps, while under the partial influence of chloroform. She offered great resistance to the introduction of the instrument, and was delivered with considerable difficulty, owing to her violent opposition, consequent upon her state of semi-insensibility. The child, however, was born alive; she had no hemorrhage, and went home well on the tenth day.

CASE XXXIX.—Catherine Ryan, aged 34; second pregnancy. Labour tedious from inertia, for which she got stimulating enemata and ergot, but with little advantage. At the end of fifty hours she was put under the influence of chloroform, and was delivered by the forceps. The child was born alive, but appeared weak; no hemorrhage: her recovery was slow, and she did not leave the hospital until the twenty-fifth day.

CASE XL.—Susan Daly, aged 28; fourth pregnancy; pains very weak; intervals long; treatment same as in the last case, and with the same effect. After being in labour twenty-seven hours, she was delivered by the forceps, while in a state of anæsthesia. Child born alive; no hemorrhage; recovery good; discharged well on eighth day.

CASE XLI.—Hannah Singleton, aged 21; first pregnancy; thirty-two hours in labour. She was delivered by the forceps

while under the influence of chloroform, which had a very happy effect; child alive; no hemorrhage; went home well on the eighth day.

CASE XLII.—Mary Sutton, aged 24; labour tedious from inertia. The ordinary remedies failing, she was delivered by the forceps while under the influence of chloroform, after having been forty hours ill; child alive; no hemorrhage; went home well on the eighth day.

CASE XLIII.—Margaret M'Mahon, aged 23; first pregnancy. She was also delivered by the forceps while under the influence of chloroform, after forty hours of labour. On the fifth day she was attacked with puerperal fever, which was then prevalent; and on the thirteenth day her mother forcibly removed her from hospital, although very ill at the time. She was reported to have died in two days after her removal.

CASE XLIV.—Bridget Hicky, aged 26; first pregnancy. She was a very troublesome, noisy patient; and as the labour was making very little progress, she was, at the end of twenty hours chloroformed, and delivered by the forceps. Child born alive; recovery good; she was discharged well on eighth day.

CASE XLV.—Ellen Hughes, aged 30; first pregnancy; twin case; labour tedious, from inertia, the result of over-distension of the uterus. She was put under the influence of chloroform, and got three doses of ergot, but without any effect. After being twenty hours ill, she was delivered of both children by the forceps, while in a state of anæsthesia. An interval of an hour was allowed to elapse between the birth of the first and second child, during which she became conscious, but without a return of uterine action sufficient to expel the second child. She had a smart attack of hemorrhage after the placenta came away; her recovery, however, was good, and she went home well on the ninth day.

CASE XLVI.—Bridget Nowlan, aged 30; first pregnancy. A twin case; the first, a footling, of which she was delivered while in a state of anæsthesia. The child was large, for a twin,

and great difficulty was experienced in getting away the head; it was born alive, however. The second a head presentation; the pains were so weak that ergot was administered, but with little effect; she was then delivered by the forceps, chloroform having been again administered. The child was still-born; no hemorrhage, but recovery slow, as there was some sloughing of the vagina. She did not leave the hospital until the twenty-ninth day.

CASE XLVII.—Anne White, aged 23; first pregnancy; forty hours in labour; delay from inertia, for which she got ergot, but with little advantage. She was delivered by the forceps while under the effects of chloroform; child alive; no hemorrhage; discharged well on the eighth day.

CASE XLVIII.—Bridget Lanigan, aged 26; first pregnancy; thirty-four hours in labour. The history and treatment same as in the last case; she also went home well on the eighth day.

CASE XLIX.—Jane Short, aged 23; first pregnancy; thirty-eight hours in labour; delivered by the forceps while under the influence of chloroform; child alive; no hemorrhage; convalescence tedious, owing to sloughing of the vagina; discharged on the twenty-fourth day.

CASE L.—Sophia Graham, aged 34; sixth pregnancy; tedious labour, from inertia, for which she got ergot, but without effect; delivered by the forceps while under the influence of chloroform; child alive; no hemorrhage; discharged well on the eighth day.

CASE LI.—Mary Doyle, aged 28; second pregnancy; funis presented with the head; delivered by the forceps while under the influence of chloroform; child alive; no hemorrhage; recovery good.

CASE LII.—Mary Fox, aged 34; first pregnancy; tedious labour; ergot administered with little advantage; delivered by the forceps; chloroform employed; child alive; no hemorrhage; recovery good.

CASE LIII.—Margaret Ward, aged 30; first pregnancy; thirty-six hours in labour; history same as last case; forceps used and chloroform employed; discharged well on the eighth day.

I have thus given a rapid outline of all the forceps cases in which chloroform was administered, and not only were the operations facilitated, but the sufferings of the patients greatly diminished, by its use; while the recoveries on the whole were above the average in such cases. In the two first-mentioned cases, either from the chloroform not being good (its purity being a most important point to attend to), or from our want of experience in the mode of administering it at the time, the patients were not got into a state of perfect anæsthesia before the operation; we therefore experienced considerable difficulty from their restless opposition while in a state of semi-insensibility. In one of the twin cases there was an attack of hemorrhage after the expulsion of the placenta; but this I do not think could be ascribed to the chloroform. In the other twin case there was great difficulty in bringing down the head of the first child, a footling, and there was a considerable interval between the birth of that and the second. Was the chloroform the cause of this delay? Doubtless in some cases the pains are diminished in frequency and force, and may even be completely put a stop to during the state of anæsthesia, but they generally return with increased vigour as soon as the state of insensibility passes away. In the present case the chloroform was discontinued from the birth of the first child until the forceps were about being applied to extract the second.

We have only one death to record, that of M'Mahon, Case XLIII., who died from puerperal fever, on the fifteenth day after delivery. Her removal from hospital contrary to the wishes, nay the entreaties of the Master, doubtless hurried on the fatal event. This unfortunate female was the victim of seduction; I need scarcely say how susceptible of disease such females

30 DR. DENHAM'S *Report on the Use of Chloroform.*

are, and how almost invariably fatal this disease proves to patients under such circumstances.

Of the children,—where ergot had been given,—one, a twin, was still-born. Two of those born alive died in hospital, one on the fifth day, the child of a woman who had also taken ergot and was fifty hours in labour. The second was the child of a patient who left the hospital in puerperal fever; it died on the eighth day. A review of the cases given will, I think, prove, even to the most sceptical, that chloroform is not only admissible but highly beneficial in forceps cases.

## CONVULSION CASES.

I now come to the last variety of labour in which we used chloroform. I need scarcely say it was not given for the purpose of either preventing or putting a stop to the fits, but as the patients were generally conscious in the intervals, and showed no symptom apparently prohibiting its use, we thought it right to give it a trial, carefully watching its effects in such cases.

CASE LIV.—Jane Baily, aged 33; first pregnancy; at the termination of the first stage of labour she was seized with a fit of convulsions for which she was bled, &c. Sensibility soon returned, but there was very little advance in the labour. Five hours after the fit she got two doses of ergot, but with little effect; in seven hours from the time she took the ergot another fit came on from which she soon recovered under the ordinary treatment. As the pains had now almost entirely ceased, and as it was doubtful whether the child was alive or not, she was put under the influence of chloroform, and delivered by the forceps of a female child, still-born. The fits did not return; she had no hemorrhage; her recovery was good, and she went home well on the tenth day.

CASE LV.—Eliza Brady, aged 19; at 2 o'clock, P. M., she was seized with a fit of convulsions, which was followed by another in ten minutes. She was bled to twenty ounces; and had a



fetid enema with oil of turpentine administered. Consciousness soon returned, and the labour went on more favourably; at 3 o'clock the os almost fully dilated, but the head very high up; pulse 144; foetal heart only 108. Chloroform was now administered, and she was kept in a state of anæsthesia for fifty minutes, during which the pulse came down to 84; foetal heart 120; pains very weak, and inefficient. The chloroform was now discontinued, and consciousness soon returned. In twenty minutes after discontinuing the chloroform, she had a very severe fit, followed by stertor and great increase in the quickness of pulse. 5 o'clock, another very severe fit, which lasted four minutes. At twenty minutes after 5 o'clock, foetal heart being still audible, chloroform was again given, and delivery attempted by the forceps, but without success. Twenty minutes to 6 had vomiting, grinding of the teeth, and spasmodic rigidity of the fingers. As another fit was apprehended, she was delivered by the crotchet; the placenta followed in a quarter of an hour, without hemorrhage. At half-past 6, and again in four hours, convulsions returned. On the following morning, the report was, that she had four fits during the night; pulse 120; very weak; still insensible. Ordered calomel and ipecacuanha, with light nourishment. She gradually sank, and died on the fourth day. No *post mortem* was allowed.

CASE LVI.—Eliza Stewart, aged 25, a delicate-looking woman; first pregnancy; she was fretful, and seemed in great distress during the pains. When about thirty-six hours in labour, chloroform was administered, and she was kept in a state of anæsthesia for nearly an hour, during which the pains diminished in frequency and force; it was, therefore, discontinued, after which she slept for a good while, and awoke refreshed. The pains now returned with increased force, and the child was born in three hours from the time she awoke. Some minutes after the birth of the child, she had two or three short convulsive fits, for which some blood was taken from the arm;

32 DR. DENHAM'S *Report on the Use of Chloroform.*

the fits did not return, and she slept for several hours, but seemed very low and weak when she awoke. She gradually sank, and died in twenty-four hours after delivery. There was no lesion found in the brain or any other part of the body, and the impression at the time was, that she had died from exhaustion, consequent on the fits, combined with a tedious and distressing labour in a delicate woman.

Such is a short report of the only convulsion cases in which we used chloroform. As I before remarked, our object in giving it was not to prevent or put a stop to the fits, but simply for the purpose of mitigating the sufferings of the patients, or advancing their labours. In the first case it was given with the view of saving the patient the fear and pain incidental to all forceps operations, and in this it succeeded admirably. The second case is one of considerable practical interest, but I shall confine myself to the subject in question, namely, the giving of chloroform. That it did not induce the convulsions is evident, nor did we ever meet with a case where such a result could be attributed to it; although many theorists have set it down as a consequence likely to follow. It did not put a stop to the fits, but it certainly served, in the first instance, to control them, at least for a time. I do not say that it lessened them either in number or intensity, nor can it be said, on the other hand, that it favoured their continuance, or tended in any way to the fatal result. In the third and last case mentioned chloroform was given with the view of relieving the great distress complained of, and of relaxing the soft parts. These two objects were in a great measure accomplished during its employment, for although the pains greatly diminished while the patient remained in a state of anæsthesia, and entirely ceased during the interval of sleep, yet they were all the more vigorous afterwards, and literally accomplished more during the last three hours than had been effected in the twelve preceding ones. The whole history

of the case tends to the probability that the chloroform had nothing to do with producing the fits, nor was it, I feel convinced, in any way the cause of death.

These cases, I think, do not afford any evidence that chloroform is calculated to bring on convulsions, nor that it will increase the number or add to the severity of the fits when they have already set in. Our experience is as yet too limited to enable us to decide upon this point; but, with our present amount of knowledge, we would neither recommend it as a preventive or a cure for puerperal convulsions. If there was no organic disease present, nor any determination to the head in the intervals, we would not fear to administer it where circumstances seemed to indicate its use, or when called upon to perform the operation of turning, or delivery by instruments in a case complicated with convulsions.

I could greatly enlarge this communication, as I have before me notes of several other cases not mentioned; but as they were not taken very accurately, I think it better not to record them here.

In one case the pulse was intermitting, so as to induce us to give up the use of the chloroform. In another the muscular exertions became so violent that it was found necessary to restrain the patient, although calm and passive before. In two instances mentioned to me by my friend Dr. Johnson, my successor in the hospital, and to whom I am much indebted for the valuable assistance he so kindly afforded me in procuring some of the materials for this paper<sup>(a)</sup>, the patients could not be brought into a state of anæsthesia by any amount of chloroform that it was thought prudent to administer, although they were really anxious for it. In several instances we could not prevail upon the patients to continue the use of it beyond the stage of excitement. Some were afraid we were about to try a great

(a) I am also under deep obligations to Dr. Ormerod, who was then in attendance at the hospital, for much valuable assistance in collecting the materials for this report.

experiment on them, or perform some terrible operation. Others imagined that it was an intoxicating drug, and, having taken the pledge, could not be prevailed upon to use it. One poor woman threatened to bring an action against the assistant on duty, for attempting, as she said, to take away her character by making her drunk. Another said to me: "Now, Doctor, you think it is one of your old drunkards you have to deal with, but you may be easy, I'll take no more of your stuff." Another, who required a very large quantity to affect her, became very loquacious, and spoke of her domestic broils and money matters. But in no case did we hear an immodest remark, or one calculated to offend the most delicate ear; nor did we ever observe the slightest approach to sexual excitement. We are, therefore, inclined to receive with caution the disgusting details and indecent stories told of patients while under the influence of chloroform.

With but one exception, we had no case of retained placenta after chloroform, nor had we reason to think that it predisposed to hemorrhage; on the contrary, we were impressed with the idea that the number of hemorrhagic cases where chloroform had been given was rather below than above the average in ordinary practice.

The contractions of the uterus after delivery were not impaired, nor did the chloroform in any of the cases appear to give rise to hemorrhage.

From what I have seen of chloroform I do not think that its use should be so restricted as Dr. Montgomery, in his valuable paper lately published in this Journal, would have us believe; nor have I witnessed the fearful results so graphically described by him as likely to follow from its use. Whilst I admit that some of the advocates for chloroform have been too lavish of their praise; on the other hand, I think that those opposed to it have been too unsparing in their censure. A middle course will be found the safest.

I consider it an agent powerful for good in many cases, yet

in rash and inexperienced hands it may, and I fear often does, prove equally powerful for evil. That it may be and sometimes is given for the purpose of amusing patients, and making them believe that they are saved from a vast amount of pain, when in reality they have scarcely inhaled a single breath of it, I doubt not. If we give it fairly and honestly, we must be prepared either to spend a much longer portion of time with our patients than we do at present, or intrust them, while in a state of anæsthesia, to the care of others during our absence. How any one in extensive practice can give up the time necessary for this plan of treatment I am at a loss to know, and yet some of our first and best accoucheurs boast that they use it in every case.

This report, I conceive, will bear us out in drawing the following conclusions:—

First. That chloroform is a most valuable agent in all turning, forceps, and crotchet cases.

Secondly. In some cases of natural or difficult labour it is useful in relieving pain, and in relaxing the soft parts, and thereby advancing the labour.

Thirdly. If given in large quantities, or if persevered in too long, it puts a stop to all muscular action. This is contrary to the opinion of Dubois, who states that it never destroys the uterine contractions, or those of the abdominal muscles.

Fourthly. In such cases the pains generally return with increased force when the chloroform is discontinued.

Fifthly. It does not relax the perineum more than the other soft parts. Dubois states that it does.

Sixthly. When organic disease does not contra-indicate its use there is little danger to be apprehended from it in midwifery practice.

Seventhly. Chloroform may be administered to such a degree as not to take away reason and consciousness, and yet to secure the patient immunity from pain.

The mode of administering it in the hospital is by means

36 DR. DENHAM'S *Report on the Use of Chloroform.*

of a hollow cone formed out of a piece of spongeo-piline sufficiently large to cover the mouth and nostrils; to prevent it from collapsing, a few ribs of whale-bone are fastened on the outside, and over these there is a covering of fine leather. This method is both simple and efficient, as proved by our almost uniform success in producing the desired effect with a much smaller quantity of chloroform than is generally used(a). Professor Simpson says, that usually when the handkerchief is used about an ounce per hour is necessary; some require less and some more. In one case lately, a first pregnancy, he states that he expended nearly six ounces in two hours. In the

(a) At the conclusion of Dr. Denham's report, Dr. Fleming exhibited and described an apparatus which he had constructed for the purpose of administering chloroform, and which he had used most extensively for some months past. This consists of a small capsule of glass, with an overlapping edge. The capsule is circular, and about two inches and a half in diameter. Within it is placed a small slice of sponge, which, when the apparatus is about to be made use of, is saturated with chloroform; and this he styles the "chloroform sponge." Round the neck of the glass a large cup-like sponge, hollowed out, and so shaped as to cover the nose and mouth, is attached. Through the pores of this sponge the atmospheric air is admitted. Before use, both sponges are damped with water, and then the proper measure of chloroform is poured upon the small flat sponge contained within the capsule.

Dr. Fleming made a communication upon this subject to the Surgical Society upon the 28th April last.—(See his paper in the Proceedings of the Surgical Society.)

We have very frequently seen Dr. Fleming employ this apparatus, and have had his valuable assistance with several patients of our own; and we feel great pleasure in stating that his method of throwing patients into a state of anæsthesia with chloroform very far exceeds in ease, simplicity, and certainty, any other means which we have witnessed. We may mention here the necessity of allowing the patients to partake but very sparingly of food before the administration of chloroform, as, if a hearty meal has been recently taken, vomiting is almost sure to follow, a symptom at all times particularly distressing, and especially inconvenient during the performance of operations about the face. From the attention which Dr. Fleming has devoted to this subject, and his extensive experience of the use of anæsthetic agents, both in public and private, we anticipate with much interest a Report upon the subject, which he has promised us for our next Number.—ED.

Dublin Lying-in Hospital we rarely use more than one ounce in that length of time, and very generally less.

In conclusion I may remark, that since the first part of this Report was sent to Press, I have read a pamphlet by Mr. Gream, upon "The Misapplication of Anæsthesia in Childbirth, exemplified by Facts," in which a number of fatal cases are given under the head of "deaths after delivery." An examination of the records of these cases, however, has convinced me that the deaths, in the great majority of instances, were not at all caused by the use of chloroform. He records a case of twins, where chloroform was administered before the second child was born, and the lady "survived the birth only for a period less than an hour;" but there are no other further details given, which certainly were required in recording the history of such a lamentable result. Another was a case of natural labour, in which the female "died at about the end of the second week from her delivery, never once having rallied from the effects of the chloroform." Two of the cases were those of ruptured uteri,—one a case of turning; and the other a forceps case, where there was laceration of the neck of the uterus, and sloughing of the vagina. A case where the patient died from sloughing of the "maternal passages," the result of long impaction, will be found among the fatal cases attributed to chloroform. Two were cases of convulsions; in one the fits came on six hours after delivery, and the patient survived for six days. In the other instance the fits came on twenty-five hours after delivery; the woman lived but thirty-eight hours after the first attack.

Six of the cases, two of which are taken from Dr. Simpson's report, died of puerperal fever coming on about the average period after delivery. In one of these cases it was caused by the rupture of a tumour that was attached to the peritoneal coat of the uterus, and in another it came on after a fit of convulsions, the result of a fright received some days after delivery. Two more of these deaths from puerperal fever are taken from the report of Baron Dubois. In these the for-

38 DR. DENHAM'S *Report on the Use of Chloroform.*

ceps had been employed, and ether was the substance used to cause anæsthesia.

Two cases of puerperal mania, one of which died on the ninth day after delivery, and the other in a lunatic asylum, at the end of fifteen weeks, are set down under the head of deaths from chloroform. It is unnecessary to recite these cases at greater length. I feel convinced that every unprejudiced practitioner, conversant with midwifery practice, will at once repudiate the idea that chloroform was the cause of death in these cases of sloughing vagina, ruptured uterus, convulsions, puerperal peritonitis, and mania, &c., of which I have given a **brief summary**. The length to which this report has already extended precludes my entering at greater length into an examination of the cases and opinions set forth by the author just quoted.

We have yet much to learn about anæsthetic agents. Should my example induce others to follow up the subject I shall feel satisfied. The object of all interested in this question ought to be, and I am sure is, to benefit mankind. However much, therefore, we may differ upon this or any other subject, I trust we shall ever be found debating, not as the briar with the thistle, which can wound the deepest, but as the olive with the vine, which can bear the best fruit, and which most mitigate the sufferings of fallen humanity in the hour of nature's trial.



1681

