

## Original Communications.

### HOW TO PREVENT CHLOROFORM ACCIDENTS.

By CHARLES KIDD, M.D., M.R.C.S.Eng.

[Concluded from page 302.]

#### INHALERS.

It is important to know that, during the interval between 1858 and 1862, nearly all the positions taken by me have been corroborated after this very full discussion, not only in Paris, in Germany, in Edinburgh, but in America and Australia. The study of the natural action of chloroform or ether, as observable in hospitals, or at the bedside in private practice, can scarcely lead astray. Coroners, or gifted instrument-makers, may persuade us that this, that, or the other form of inhaler, at so much each (discount off for ready money), may reform the entire study of chloroform administration, and without such infallible means, deaths must increase; I always use an inhaler myself—a very simple one; but in some departments of practice—midwifery, for instance, where chloroform has proved to be most safe of all—the latest details of cases and statistics (those from America, 1862) prove incontestibly the safety of a simple handkerchief. This is stated to show that we must look in some other direction for the cause of accidents, as they are, unfortunately, just as frequent with inhalers as without. In this memoir, read by the leading obstetric professor in America to the Academy of Medicine at New York, the superiority, and possibly the safety of chloroform, as compared to ether, was admitted, even in general practice. The true value of ether, I now believe, is as an anæsthetic in reserve; to be given alternately with chloroform, if the operation, such as ovariectomy, is very long, or the pulse fails. There was something additionally instructive in the fact that, after considerable experience of ether in midwifery (the favourite anæsthetic in America), the Academy gave an undivided preference to chloroform; more especially in cases of rigid os uteri, what we have elsewhere termed exhausting labour with agonising pain, instances of eclampsia and undilating perinæum most particularly of all; but in inversion, and exhausting labours in other patients, ether seemed slightly preferable. In one case of marked mitral regurgitation, the labour-pains “absolutely powerless,” it was thought that ether acted better than chloroform.

Doubts were expressed as to the advisableness of anæsthetics after or during the bleeding of placenta prævia; for an additional reason, probably correct, that where blood-vessels are emptied by such bleeding, absorption of the chloroform is very much increased. The chloroform then, as expressed by one speaker, “takes like a lightning flash”; so, at least, it occurred in some cases of convulsions with hæmorrhage, where chloroform was given immediately after venesection; the woman stopped breathing as if dead, though ultimately recovering very well.

One of the speakers had taken chloroform himself “thirty or forty times; had given it to his nearest friends and relatives; and at all ages, from the child of thirteen days up to the most advanced periods of life.” He had given it in extensive heart-disease, also with entire safety. He was rather inclined, however, to fear hæmorrhage and simple syncope than anything else. Of forceps cases, he cited sixty-nine, as only a small part of his practice, which succeeded unusually well with chloroform; and in a proportionate experience of convulsion and version patients, he expressed a belief in

chloroform as “the most precious agent” of modern practice.

Another speaker referred in similar terms to eighteen cases of forceps operations and fourteen of version\* cases under chloroform; and he was “fully persuaded that no one should attempt them without having recourse to anæsthetics”; he did not approve of the latter, however, in craniotomy. He had not witnessed *post partum* hæmorrhage; and he believed labour, on the average, was shortened by a judicious exhibition of chloroform, and “muscular soreness following labour usually” disappeared. Very lamentable cases happen occasionally of entire inversion of the uterus, from forcible dragging of the funis, or from the patient suddenly getting out of bed. This accident may be even attended with most alarming symptoms of fever; nay, even with accelerated small pulse, exhaustion, etc. Yet here chloroform has been known to act like a charm in allowing the return of the displaced and partly strangulated uterus. All this agrees remarkably with my experience of chloroform in obstetrics.

#### TWO FORMS OF ACCIDENT QUITE DISTINCT.

The number of males (nearly all healthy adults), it is remarkable, is exactly double that of females or children in accidents from anæsthetics; yet chloroform is very much used in cases of children and in midwifery; in them, however, almost without accident. All this has been evidently a work of some slowness to arrive at; as well as the fact that the operations have been almost all of a small or trivial kind, mostly without hæmorrhage, which latter, in large operations, seems to prevent fatal engorgement of the cavities of the heart, the essential point of departure of deaths from chloroform, as I think, after stoppage of the respiratory muscles.

These and some similar deductions, from comparison of groups of cases (the only safe method of medical logic), are, as yet, only imperfect, though now including the facts of about 200 deaths from anæsthetics. We set them up, however, as the deductions of statistics (must, as we think, always be) as “finger posts” at the crossroads of conflicting opinions. It may be that this immunity from accident in children and women depends on a healthier and more active reflex or spinal system.

We have, moreover, now two well ascertained dangers to be cautious of; cases of peculiar idiosyncrasy under chloroform, excess of chloroform, bad chloroform or irritable larynx or glottis, which may induce apnoea (formerly termed asphyxia); and secondly, mental fright, injury of tendons, nervous exhaustion, hysteria, intermittent pulse, etc., which may produce, in some manner not well understood, a form of syncope.

In conclusion, a few words of advice may be not out of place, as to the necessity of a calm, well informed examination of the entire subject of anæsthetics. One writer (Vigouroux) holds very strongly that the heart is so excited by chloroform that its action stops; but Brown-Séquard and Schiff now give us the other half of this fact. The theory of “cardiac syncope,” as the immediate cause of death from chloroform, on induction *post mortem* facts, is totally erroneous; as is also the induction from similar facts, as to the neglect of inhalers, fatty heart, etc.

At every step of the inquiry we have had the *post hoc* taken for the *propter hoc*. Deaths occur under chloroform, because the fact is not recognised that the respiration is more important than the pulse; that the chief desideratum is to have the respiration and pulse both good; that they are, in fact, the opposite swings of a pendulum in keeping the clockwork movements of the

\* Professor Martin of Jena (*Froriep's Notizen*), as the result of thousand midwifery cases under chloroform in his experience, also agrees with these views across the Atlantic, more especially as to the value of chloroform in version cases. Dr. M'Clintock of Dublin is equally clear on the point.

system in active motion, which they invariably do, notwithstanding the deepest unconsciousness in the other portions of the nervous system and brain proper.

We have, in fine, two most important forms of accident to avoid, and which require different means of treatment. *Apnœa* (the old cardiac syncope) beginning in the lungs and larynx, due to preventable causes; and secondly, syncope, pure and simple, from idiosyncrasy, with pallid face and cavities of the heart empty; or even, as Sir B. Brodie suggest, with red blood in the left or systemic side.

#### CHLOROFORM SICKNESS.

Mr. Paget, with his usual discriminative ability, referred, in a late address, to "one of the very few deductions from the unspeakable value of anaesthetics"; namely, chloroform sickness; as increasing the peril of the shock of an operation. It is an evil, he says, that deserves careful study; in all of which I agree with him. I would wish to say that I have recently discovered that if we get the patient quickly out of the chloroform it stops the sickness. This I do by the usual means and a little aromatic vinegar, and agitating briskly the respiratory muscles, and by fanning the patient's face and neck for about three minutes with a common lady's fan. In ovariectomy, hernia, cataract, etc., where vomiting is so ruinous, I find this succeeds most perfectly. Patients should be carefully watched, also, for at least four hours before an operation, as often, "to keep their courage up," as nurses and others tell them, they steal a march on the surgeon, and gorge themselves, as I have known hundreds of times, with a huge mass of food, and, perhaps, a bottle of porter. Yet it is notified at the time, they have had no dinner by special order of the surgeon. I have little doubt the vomiting is due to irritation of the cardiac end of the stomach, dragged as it is by the convulsed muscular irritation of the diaphragm in the second stage; and irritated, as elsewhere described, by regurgitated matters from the small intestine. Some of the cases of vomiting are attended by rigor and other signs of constitutional mischief from the knife. These are common without chloroform, and not due to it in any measure, the vomitings portend impending pyæmia, fever, etc.

Rigors, too, sometimes set in immediately after deep anaesthesia. It appeared to me as if the anaesthesia of an hour long kept the rigors in check. Again, in midwifery cases, passing the hand into the uterus in some patients, without chloroform, excites puerperal convulsions; but if this be performed under slight anaesthesia (and some accoucheurs are absurdly timorous about chloroform), then chloroform gets the credit of any mischief, in the shape of vomiting or convulsions, that may arise, though it does not deserve it. The cardiac end of the stomach (not the pyloric) is, like the uterus, exquisitely sensitive to reflex spinal action. Even putting a finger into the gullet excites this. Champagne and creasote are the best remedies for "chloroform sickness", followed by an aperient to direct, as it were, the peristaltic action in another direction. Salts of barytes are also useful; perhaps more so than the usually praised cadmium.†

† Three essays on chloroform have appeared this month in three several cyclopaedias or systems of surgery: all three contradictory as to the necessity of watching the pulse, fatty heart, sickness and vomiting; and none of the facts, *quantum valetant*, just stated, are noticed; so I am anxious to draw attention to them. None of the writers have seen the masterly essay on chloroform by Lallemand, Perrin, and Duroy, which is about as satisfying as to be ignorant of Brown-Séquard in an essay on epilepsy. Indeed, a fourth American essay or standard manual on etherisation and chloroform, has just reached us from the war in that country, with a showy bibliography of all the books yet published on chloroform, and recommended to surgeons; this French work is left out, as also Snow's most admirable treatise. Under some circumstances, "tis folly to be wise". These must be such.

## Transactions of Branches.

### LANCASHIRE AND CHESHIRE BRANCH.

TWO CASES OF DOUBLE PARALYSIS OF THE PORTIO DURA AND PORTIO MOLLIS OF THE SEVENTH PAIR.

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[Read June 25th, 1862.]

THE purpose of the present communication is to bring to the notice of the Branch, and to place on permanent record, the history of two examples of a very rare form of paralysis; likewise to offer some remarks in elucidation of the seat and nature of the disease in these cases; and lastly, to indicate very briefly their bearing on certain disputed points relating to the function of some of the nerves concerned.

The patients present the easily recognised signs of a double paralysis of the peripheral distribution of the portio dura and portio mollis. Both are stone-deaf; and there is complete palsy, with atrophy, of the muscles of the two sides of the face. In neither case are there any of those direct evidences of destructive disease of the temporal bone, which commonly attend unilateral paralysis of the two divisions of the seventh pair, from the ordinary causes of such a lesion: caries, suppuration, and malignant disease of the pars petrosa.

The first example fell under my notice about a month ago, in the person of a silk hatter named Alexander Miller. He is 47 years of age, a tall spare man of vigorous frame. His wife supplied me with the following particulars of his previous history. He has been a healthy man of somewhat temperate habits. About a twelvemonth ago his health gave way, and he was reduced to a state of considerable weakness. One day about this time, he was seized with a sort of fit which only lasted a few minutes. Whether it was syncopal or apoplectic is impossible to make out; it left, however, no consequences behind.

A fortnight after this fit, the patient, on awaking in the morning, discovered that he was not able to move the right side of his face nor to close the right eye.

Eight days later, suddenly in the evening, the left side of the face became paralysed and the features, previously distorted and drawn to the left, resumed their symmetry. All motion of the face had now ceased. An important circumstance occurred between the two seizures. Four days before the second attack, the patient became conscious that he was totally deaf on both sides. He is positive that the deafness supervened in the interval between the two seizures of facial paralysis. It appears, on inquiry, that he was always hard of hearing on the right side, so that it is uncertain whether total deafness of that side preceded or accompanied the first paralytic seizure. From the date of these two attacks up to the present time, there has existed without change total deafness of both ears, and total paralysis of the muscles of facial expression. No other part of the body shared in the palsy, and feeling is perfect in the integuments of the face. The general health has greatly improved since the date of the attacks, and for many months now the patient has been free from bodily illness. He complains, however, of some cephalalgia and of a sense of weight and tightness over the forehead. The skin of the forehead and of the nose have a thickened congested appearance, and seem to have suffered repeated attacks of fugitive erysipelas. There has not been any running from either ear at any time.

To prevent useless repetition, it will be convenient to postpone the observations I have to make on the present state of the patient, until the antecedents of the second case have been related. The similarity between their