REMARKS

ON

A CASE OF SUDDEN DEATH IN OVARIOTOMY
WHILE THE PATIENT WAS UNDER THE
INFLUENCE OF CHLOROFORM.By SIR JAMES Y. SIMPSON, BART., M.D., D.C.L.,
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A FEW weeks ago, Mr. Brotherston of Alloa sent to Edinburgh a patient who was the subject of an ovarian tumour. She brought a note from him, asking if I thought the case a fit one for ovariectomy. I wrote back that it seemed to me to be so. The patient was married, about 22 years of age, thin and emaciated; and I thought that the tumour, which was as large as the pregnant uterus at the sixth or seventh month, felt more solid than multilocular ovarian tumours of this size usually do; yet it seemed free from adhesions.

Mr. Brotherston took the patient into the small village hospital at Alloa, and urgently requested me to be present when he operated. Accordingly, on the morning of February 5th, I went up to him. Drs. Wilson and Duncanson of Alloa were also to be present; but Dr. Duncanson did not arrive till after the patient was laid upon the table and the operation begun. With the view of allowing Dr. Wilson to give full assistance to Mr. Brotherston at the operation, I chloroformed the patient. In doing so, I placed a single layer of towel over the nose and mouth, leaving the eyes exposed; and dropped the chloroform upon the towel. When Mr. Brotherston made his first cutaneous incision, the patient moved so much that he stopped for a brief time, till I put the patient more deeply under the effects of the anæsthetic. The tumour was rapidly reached, and was attempted to be diminished in size by tapping; but only a comparatively small quantity of fluid escaped. Mr. Brotherston then extended the opening upwards for an inch or more above the umbilicus, and was introducing and using his hand with the view of turning out the ovarian mass, when the patient vomited suddenly and profusely. Immediately the eyes opened; the pupils were preternaturally dilated; the face looked pallid; and the respiration, which had never been affected by the chloroform so as to have the least noise or stertor in it, seemed arrested. Instantly artificial respiration was set on foot, and the tongue pulled forward. Deep spontaneous respiration then occurred several times in succession, and I deemed at the moment that the patient was hence out of danger; but a second collapse occurred, which terminated in death, all means of resuscitation proving unavailing.

On a *post mortem* examination of the body, ordered by the legal authorities, no disease could be found in the head or chest, or elsewhere. The ovarian tumour was free from any peritoneal adhesions. On examining its structure, Dr. Pettigrew, the esteemed pathologist of the Royal Infirmary of Edinburgh, found it to be cancerous in its character.

REMARKS: *Cases of Sudden Death during Surgical Operations without Anæsthetics.*—In the first paper which I published on Chloroform in the *Edinburgh Monthly Journal of Medical Science* for December 1847, I stated that this drug, if given in too great or too long doses, "would doubtless produce serious consequences, and even death;" and at the same time I expressed the hope that "its great potency would be one great safeguard against its abuse." Since that period, I have administered it myself, or been present when it was administered, in several thousands of instances; but have not seen its employment terminate in death before the occurrence of the preceding unhappy case.

According to all the experimental and clinical observations which have been made, chloroform appears capable of destroying life in two ways—namely, (1) by asphyxia, and (2) by syncope. Death by asphyxia can generally, if not always, be averted by at once arresting the inhalation of the drug whenever the breathing becomes noisy or stertorous—states which, as already mentioned, never occurred with the preceding patient. Syncope, or sudden stoppage of the action of the heart, is doubtless far less under control, and has apparently formed the principal cause of the fatal issue in almost all the cases in which patients have perished when under the use of chloroform. Perhaps

fewer cases of syncope actually do occur under operations since the introduction of anæsthetics, because the nervous and sensory systems of the patients are so far obtunded by their employment; but a patient is, I believe, in greater jeopardy if syncope do happen when he is under the influence of chloroform, than when he is not under it, because the irritability and action of the heart are diminished by the free use of it, as shown by the lowering and slowing of the pulse. Yet, when syncope does occur in chloroformed persons, artificial respiration and its accompaniments are usually sufficient to rally and restore the patient. When the preceding case was described by me at a late meeting of the Edinburgh Obstetrical Society, Dr. Gordon and Dr. Angus Macdonald each mentioned an instance in which sudden fainting took place, with pallor of the face, open eyes, and very dilated pupils, at the first commencement of the incisions in two slight operations—the one for the removal of a small tumour, the other for the incision of a carbuncle; and in neither case had the patient taken any unusual dose of chloroform. They both recovered under artificial respiration. Several analogous cases have been recorded.

But are all such cases of syncope which take place during operations, and which end, or do not end, in death, the result of the action of the chloroform which happens to be used at the time? The question is one which has never perhaps sufficiently attracted the attention of the profession. For doubtless it is true that, before the introduction of anæsthetics, patients sometimes died from syncope upon the operating-table, both immediately before and after the operation was commenced, and under conditions and circumstances which in modern times, when anæsthetics are almost universally employed in operations, would be not unnaturally described and regarded as deaths from chloroform. Formerly, such sudden deaths under surgical operations do not seem to have been looked upon as matters of moment, because, in fact, no special pathological or practical interest was attached to their occurrence. They were simply regarded as inevitable accidents, and are usually only incidentally alluded to, when alluded to at all, by surgical authors, provided they illustrate some special observation or opinions on the part of the writer. Thus, as showing how "violence alone, without the loss of blood, may often produce immediate fatal effects," John Hunter makes the following illustrative observations.

CASE I.—"I have seen" (writes Mr. Hunter) "a man thrown into such convulsions from the operation of the hydrocele being performed upon him, that I began to despair of his recovery. I have known" (he adds) "a man die immediately after castration". (See his Works, vol. iii, p. 431).

In the first volume of his work on *Constitutional Irritation*, Mr. Travers cites several cases of sudden death in surgical patients to illustrate different pathological principles to which he points. For example, he gives the following.

CASE II.—A robust middle-aged man, the subject of a moderate-sized aneurism of the femoral artery, entered the London Hospital and readily assented to the usual operation for that disease. On entering the theatre, however, he fainted, and had some wine and water given to him. The operation was then proceeded with, the artery exposed, and the ligature applied, but not tightened. During the operation, it was observed that no pulsation could be felt in the tumour. On examining the patient more minutely, it was found that he was quite dead. On dissection, both sides of the heart were found empty, and the lungs turged with blood. No other particular appearance was observable.

CASE III.—"I saw" (again writes Mr. Travers) "a man who was the subject of strangulated hernia. He expired suddenly on the table during the steps preliminary to the operation, which, from the state of the symptoms and of the bowel, as ascertained by examination after death, might be said to afford the fairest prospect of relief."

CASE IV.—A man who had been bitten in the finger by a cat, and in whom symptoms resembling those of hydrophobia had been present for twelve hours, submitted to the excision of the bitten part, and died in three minutes.

CASE V.—A brewer's servant, a man of middle age and robust frame, suffered much agony for several days from a thecal abscess occasioned by a splinter of wood perforating beneath the nail of the thumb. A few seconds after the matter was discharged by a deep incision, he raised himself by a convulsive action from his bed and instantly expired. (See Travers on *Constitutional Irritation*, vol. i, p. 25).

These several cases are, as I have said, stated by Mr. Travers each to illustrate some special pathological principle; but they do not necessarily include all the cases of sudden death upon the operating-table which he may have seen or heard of, and which were not calculated, in his opinion, to point to any special surgical fact. In former years, in talking with surgeons who had seen many operations before the time of anæsthetics, I heard of various instances in which patients had been removed dead from the operating-table.

It is, perhaps, impossible now to collect adequate data to fix the probable frequency with which such accidents formerly happened. We may, perhaps, fairly infer, however, that they were not very rare; for, when I was attending specially to this question in the first six or eight years of anæsthesia in surgery, the following cases occurred in Edinburgh and its neighbourhood.

CASE VI.—Shortly before the introduction of anæsthetics into surgical practice, in 1846, my late friend, Dr. John Argyll Robertson, Lecturer on Surgery, was asked to see a case of strangulated inguinal hernia in the practice of Dr. Thomson. The gentleman was removed from bed and placed upon a table to facilitate the required operation. Dr. Robertson, before proceeding to use his scalpel, was employed in removing the hairs from the groin with a razor when the patient suddenly complained of faintness, gasped, and died.

CASE VII.—After discovering the anæsthetic effects of chloroform, on November 1847 I tested it in a case of tooth-pulling, but required to wait eight days before I had an opportunity of using it, in the hospital or elsewhere, in any surgical operations. A few days, however, after its discovery, a hernia, which had been strangulated for a few hours, was brought into the Infirmary, and Professor Miller thought it a case demanding operative interference, and one in which chloroform should be tried; but I could not be found in time for the purpose of giving it, and the patient was operated on without any anæsthetic, Professor Miller had only proceeded the length of dividing the skin, when the patient fainted, and died with the operation unfinished. If the chloroform had happened to be used, and this fatal syncope had occurred while the patient was under its action, the whole career of the new anæsthetic would have been at once arrested.

CASE VIII.—Within a year or two afterwards, I saw at my own house a child with a large abscess in the neck, and I wrote Dr. Pattison, the medical attendant, to the effect that I thought it was sufficiently advanced to be opened. Next day, when the collection of pus was about to be opened, the mother suggested that the child should first have some chloroform administered to it. Dr. Pattison had none with him; he explained that the walls of the abscess were so thin as not to give much pain; and put his lancet into the purulent swelling. The child immediately fainted and died, without any hæmorrhage or any other complication to account for the fatal syncope.

CASE IX.—In a case belonging to Dr. Gilchrist of Leith, I saw a surgeon try to treat a sacculated aneurism at the root of the neck by a small quantity of hæmostatic injection. As the operation involved no cutting, no chloroform was used. The patient's respiration speedily became stertorous, and he died in a few minutes.

CASE X.—In 1853, Dr. Richard Mackenzie was called to see a patient who had shortly before fallen and fractured the radius. After examining the patient, Dr. Mackenzie felt his pocket for his chloroform bottle, but found that he had it not with him. Anxious not to lose time by sending for it, he forthwith adjusted the displaced ends of the bone, and applied splints and a bandage. A few minutes after leaving the house, Dr. Mackenzie was suddenly recalled, and found his patient dead.

If, in the preceding cases, chloroform had happened to be employed, the fatal results would naturally, by most minds, have been attributed to the anæsthetic, and not to the operation, or to the condition of the mind or body connected with the operation. Such cases teach us, at least, that caution is required in our reasoning and inferences, seeing that death may occur, and has occurred, in operations without chloroform, and with phenomena quite similar to those ascribed to the action of chloroform. Most of the stronger drugs in the *Pharmacopœia*, as opium, elaterium, antimony, mercury, etc., are, proportionally to the number of cases in which they are used in full doses, as fatal as or more fatal than chloroform, but they are not so sudden, and hence not so infinitely appalling in their dangerous and fatal effects. The number, for example, of lives lost yearly by the poisonous effects of opium is much greater than that lost by chloroform.* At our different drug manufactories in Edinburgh, we have upwards of two million doses of chloroform manufactured annually, and much is also made elsewhere; yet how rarely does a fatal result follow its use! Is there any other common or potent drug, which could be given in full doses in two millions of instances yearly, with greater impunity?

* In 1840, out of every 1,000,000 living in England and Wales, 24 were poisoned by opium, and 22 by other medicines improperly given to children below the age of five years. (See *Seventh Annual Report of the Registrar-General*, p. 82.) In England and Wales, in the five years from 1863 to 1867, there were poisoned by preparations of opium, 632 individuals; by salts of lead, 242; by over-doses of medicine, 52; by strychnine, 41; etc. There were drowned during the same period while bathing, 707 persons; while sliding or skating, 126; burnt to death by clothes taking fire, 2194; killed by falls in walking, 104; suffocated by bed-clothes, 2332 children; suffocated by over-laying, 682; died from navel hæmorrhage, 372; etc. (See *Thirteenth Report of the Registrar-General*, pp. 176-8.)

AN ORATION

DELIVERED BEFORE

THE HUNTERIAN SOCIETY,

February 9th, 1870.*

By THOMAS BRYANT, F.R.C.S.,

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I NOW propose to quote a few extracts concerning drugs and their uses.

Quinine.—On March 17th, 1824, Dr. W. Babington, senior, asked to what extent members had used quinine. He said that it would be a desideratum of importance, should it be found to fulfil the expectations excited respecting it.

Morphia.—On March 6th, 1833, the same physician directed the attention of the Society to a new product of opium—morphia. He had used it in about twenty cases, with a good result. In the discussion that followed, Mr. Beale related a case of a patient who, during three years, took four ounces of laudanum daily. A second case was likewise detailed, in which a man took ten to sixteen ounces daily; this gentleman afterwards gave it up. Dr. Uwins gave a case of a gentleman who was an opium-eater, who took nine grains of morphia (the acetate) daily, without any interference with his intellect, which opium caused. He was a literary man.

Prussic Acid.—At the same meeting, Dr. Babington, senior, said that prussic acid was a drug of the effects of which he had heard but not known. His son, Dr. Benjamin Guy Babington, had killed a dog with two drachms of it in fifty seconds. On the following meeting, March 20th, a case of poisoning by the acid was related by Dr. Whiting. It was that of a man in the Borough, who took a large quantity of the acid; and, after taking it, he walked from behind the counter to the outside of his shop-door. After death, two drachms were found in his stomach.

These three extracts are interesting as fixing the dates when quinine, morphia, and prussic acid were being introduced into the practice of medicine. How would the physician of the present day get on without them?

The Stethoscope.—One more extract must be given ere I close this series: it has reference to the stethoscope. In 1823, Dr. Babington, senior, said, in reference to the stethoscope, that he was not aware that much was gained by external examination of the chest in pulmonary disease; although in heart-affections it was good.

No wonder that, in those days, chest-affections were little understood; that on February 19th, 1823, a long discussion took place as to the hydatid origin of tubercle; and that in 1824, Dr. Babington, senior, related a case in which eight or ten grains of sulphate of copper had been given as an emetic, every other morning, in phthisis. He added, however, that no permanent advantage resulted.

I think, Sir, you will probably admit with most of us who are now present, that the clinical observations which I have brought before you are too good and valuable to be hidden any longer in our records. Some are valuable in themselves; and many are worthy of publication, as containing the early germs of principles of practice which are now general. In 1831 we find the treatment of aneurism by pressure employed by Mr. Key. In 1832, the much vaunted metallic sutures were used by the same surgeon in a case of cleft palate; and I may state that in 1846, when I was a student at Guy's, Mr. Morgan had them in common use. Mr. Key's cases of hernia are worthy of attentive study; and it would be well if the practice adopted in 1836 were now universal—leaving the sloughing bowel in the sac untouched, and dividing only the stricture. The case of Sir W. Blizard's, given in 1834, in which a fractured thigh-bone was united in a patient 108 years of age, is of double interest; for it proved that the surgeon in those days had not only good faith in the power of nature's processes by attempting the case, but in the possibility of a successful issue to the attempt. It would be well if this practice were now generally followed, particularly in thigh-injuries. Mr. Luke's case of fracture of the spine relieved by extension is of special value, for the practice employed is not yet admitted into general use; and the quoted opinion of Sir A. Cooper respecting trephining has not yet received a definite answer.

The first Laryngoscope.—I must now refer to the year 1829; for it should ever be regarded as a red-lettered one in the history of our So-

* Concluded from page 177 of last number.