SIMPSON, J. Y.
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REMARKS

ON THE

ALLEGED FATAL CASE OF CHLOROFORM-INHALATION.

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(*From the Lancet of February* 12.)

In a paper on Chloroform, written in November last, and published in the Monthly Journal of Medical Science, I stated my belief, that "the power which we have with it of bringing down the pulse, &c., shows that if exhibited in too strong a dose, and given uninterruptedly for too great a length of time, it would doubtless produce serious consequences, and even *death*."—P. 417.

Knowing the very great extent to which chloroform has latterly been used, the enormous supplies of it manufactured and sold, the many thousands of persons already submitted to its influence, and the want of caution with which its administration has sometimes been conducted, I have felt, and repeatedly expressed surprise, that no fatal disaster should have accompanied its exhibition.

At last an alleged fatal case of its employment has been reported, and a Coroner's Jury has returned a verdict of "Died from congestion of the lungs from the effects of chloroform."

The unfortunate patient certainly died when under the influence of chloroform; not, however, as I believe from its effects; but from the effects of the means used to revive her.

I think this will be evident from the statement of a few of the particulars elicited at the inquest, and published in the Lancet of Saturday last, and from Mr Meggison's own report of the case in the Medical Times of the same date.

The patient was a girl of fifteen; and the dose of chloroform given was not very large, "about a teaspoonful." Apparently in "about half a minute" after the inhalation was begun, the operation (the extraction of the nail and matrix of the great toe for onychia) was rapidly performed. She was at the moment not under so deep a degree of anæsthesia as we often see in surgical cases, as "her breathing was a little quickened, but *not* stertorous," her pulse was "*not* altered in frequency," and, "when the incision was made, she gave a struggle or jerk." "She *kicked* out (Mr Meggison's own report*), and I, thinking the chloroform not sufficiently potent, was proceeding to apply more to the handkerchief, when her lips, which had been previously of a good colour, became suddenly blanched, and she spluttered slightly at the mouth as one in epilepsy.† I threw down the handkerchief, and gave her cold water immediately, followed by brandy. In a minute she ceased to breathe." "I gave her some brandy, a *little* of which she swallowed with difficulty." "She moaned (according to her father's evidence) *after* the nail was off; he (Mr M.) afterwards put some brandy in her mouth, and she *rattled* in her throat."

From the above extracts it evidently appears that the girl fell into a state of syncope (becoming suddenly blanched, &c.), at the time of operating. The syncope might result from the operation, or from the chloroform, or from both. I have seen in a few cases such a blanched state of the lips and features come on under the use of very powerful and deep doses of chloroform—simulating syncope, and with the respiration temporarily suspended; but these symptoms always readily disappeared, and the patients speedily recovered by simply removing the chloroformed handkerchief from the face, and letting them alone. And I most sincerely and conscientiously believe, that such would have been the result in the present unfortunate instance, if nothing more had been done. But,

* *Medical Times*, February 5.

† All who have used chloroform often and deeply for surgical operations, must have noticed this last appearance frequently, as it is by no means uncommon; and to those unacquainted with the action and effects of chloroform, such a phenomenon, and that of spastic contractions of the voluntary muscles, might well, at first, seem serious and formidable symptoms. Experience, however, has most amply and abundantly proved, that they form no indication of danger; and that such patients pass as rapidly and safely through the anæsthetic state as other persons who present none of these phenomena. They are no more indicative of danger than the apparently very formidable symptoms of a paroxysm of hysteria are indicative of danger. To the one and to the other, experience shows that we need attach no anxiety or alarm whatever.

with the best of motives and intentions, water and brandy were poured into the girl's mouth. They were of course allowed to rest in and fill up the pharynx of the patient, as in her state of syncope and anæsthesia she was not in a condition to swallow them. The attempt at swallowing mentioned in the evidence, was, I have no doubt, an attempt at breathing, or breathing combined with swallowing. But it was impossible for the patient, in her weak state, to inspire through a medium of water and brandy, any more than it would have been possible to inspire if the head and face had been completely submersed in the same fluid. The liquid would be partially drawn into the larynx. "She rattled in her throat." "In a minute more she ceased to breathe."

In commenting on injuries of the head, Mr Guthrie, when speaking of the treatment of concussion of the brain, a state rendering the sufferer, like Mr Meggison's patient, "senseless and motionless, and the countenance deadly pale," correctly observes, "it is improper to put strong drinks into his mouth, for he cannot swallow; and, if he should be so far recovered as to make the attempt, they might possibly enter the larynx and destroy him." Would not precisely the same accident occur if, in any case of deep apoplexy, epilepsy, syncope, or narcotism, in which the power of swallowing was temporarily suspended, we filled the throat and mouth with brandy and water, or any other liquid?

The girl died, then, as I conceive, from the *nimia cura medicinæ*,—choked or asphyxiated by the very means intended to revive her. And this view of the case is further borne out by the pathological fact, that the appearances observed at the post-mortem inspection of her body, were all exactly those produced by simple asphyxia.

I shall quote the principal morbid appearances in an arranged order, for the purpose of facilitating the reference to them.

In the first column of the following table I shall cite *verbatim* the description of the principal morbid appearances met with on opening the girl's body, in the words of the official evidence laid before the coroner. In the second column I shall, for the sake of comparison, cite the description of the principal morbid appearances met with on opening the bodies of those who have died from asphyxia; and for this purpose I shall quote *verbatim* the account of these appearances given by Dr Carpenter, in a careful and elaborate article on asphyxia published in the *Library of Medicine*, Vol. III. p. 221. I take the extracts from Dr Carpenter's essay, merely because they are the first that come to hand. I might equally make the extracts from Dr Roget's article on asphyxia in the *Cyclopædia of Medicine*; or from any other essay on the subject.

Morbid Appearances seen on the body of the girl alleged to have died from the effects of Chloroform. (Extracted *verbatim* from the official evidence, in Lancet of Feb. 4.)	Morbid Appearances seen on the bodies of those who have died from "Simple Asphyxia rapidly induced." (Extracted *verbatim* from Library of Medicine (1840), Vol. III. p. 221.)
1. *Heart and blood.*—"The heart contained dark fluid blood in both its cavities; very little in the left."	1. *Heart and blood.*—"The accumulation of blood in the right side of the heart, and in the vessels connected with it, namely, the systemic veins and pulmonary artery, and the comparatively empty state of the left cavities, as well as of the pulmonary veins and systemic arteries, are the appearances most characteristic of asphyxia. The blood is usually found fluid."
2. *Lungs* "*not collapsed* on opening the chest."	2. *Lungs not collapsed.*—"The lungs are greatly distended, and expand to meet over the pericardium."
3. *Lungs congested.*—"The external appearance of both luags over the whole surface, but especially at the inferior portions, was that of organs in a very high state of congestion."	3. *Lungs congested.*—"When exposed to view they present a dark brown, sometimes almost blackish, hue externally; but their parenchyma exhibits a redder tint when cut into. The engorgement is here in the arterial system; but it is occasioned by the accumulation of venous blood, of which large dark thick drops flow out when incisions are made into the substance, and slight pressure employed."
4. *Bronchi.*—"The pulmonary tissue was filled with bloody froth, which was also found in the interior of the bronchi mixed with mucus."	4. *Bronchi.*—"A mucous froth rarely sanguinolent covers the lining membranes of the larynx, trachea, and bronchi; this membrane is sometimes deepened in colour" (Appearances after Asphyxia from Submersion, p. 244).
5. *Larynx and epiglottis.*—"On examining the larynx and trachea, the epiglottis was found reddened at the summit, of a vermilion hue. The mucous membrane of the larynx was redder than natural, mottled with vascular patches. The sinuses of the larynx contained a good deal of dark mucus."	5. *Larynx and epiglottis.*—"Venous congestion is usually well marked in the root of the tongue, which often appears as if injected. It extends also to the mucous membrane of the larynx and epiglottis, of the trachea and bronchi, which is deeply marked by vascular turgescence."
6. *Parenchymatous abdominal organs.*—"The liver, kidneys, and spleen were more congested than usual."	6. *Parenchymatous abdominal organs.*—The venous congestion "is very perceptible in all organs which are largely supplied with blood. Thus the liver and spleen are in a state of engorgement."
7. *Brain.*—"The brain, externally and internally, more congested than usual."	7. *Brain.*—"The veins and sinuses of the head of course partake of the general venous congestion. And, in well-marked cases, an unusual number of red points is seen on slicing the brain."

The above table shows that all the special morbid appearances observed in the chloroform case, as reported to the Coroner, are,

one and all of them, exactly the special morbid appearances observed in the bodies of patients who have died of simple asphyxia. But it is important to add, that while the morbid appearances in Mr Meggison's patient were precisely those seen to result from pure asphyxia, these morbid appearances were, on the other hand, *different* in some essential points from the morbid appearances seen on the bodies of animals intentionally killed by the inhalation of chloroform. About two months ago, I witnessed a series of experiments, made by a Committee of the Medico-chirurgical Society of Edinburgh, on several animals poisoned with fatal doses of chloroform. In Mr Meggison's patient, the blood found in the heart was "dark" and "fluid." On the contrary, in the fatal experiments to which I allude, "firm coagula of blood were found in *every* case where chloroform was inhaled!"[1] In some the lungs were congested; in others, quite healthy. In none did we find the brain congested, as in Mr Meggison's patient.

Besides, the dose of chloroform exhibited by Mr Meggison was so small, as to render it exceedingly improbable that *it* could have been the essential cause of the death of the patient.

Altogether, then, while it thus appears highly improbable that the fatal result in Mr Meggison's patient could be the effect of the use of chloroform, the conditions in which the patient was placed were such as would almost inevitably have produced death by asphyxia. The morbid appearances were not those resulting from chloroform; they were those resulting from asphyxia. And, as I have already stated, the verdict should not have been "died from the effects of chloroform," but "died from the effects of means used to restore her from the state of anæsthesia."

In making this last remark, and coming to this self-evident conclusion, I have no desire to throw any, the very slightest, blame upon Mr Meggison. Nothing could be possibly further from my wishes and intentions. On the contrary, I take very great blame to myself for not publishing sooner, as I intended, a suggestion to my professional brethren, to guard them against this source of danger in the treatment of chloroformed, or apathized patients. To point to it, as I have now done, will, however, I hope, be sufficient. And I will merely add, that I sincerely believe, from all that I have seen, that in such a case as Mr Meggison's patient, nothing whatever requires to be done but the removal of the handkerchief or inhaler, and the free admission of air to the face of the patient, If aught else is to be attempted, it

[1] See Dr Bennett's report on the subject in the Monthly Journal of Medical Science for January 1848, p. 539.

should amount to sprinkling cold water on the face, compressing the thorax, or otherwise exciting inspiratory acts. And, if still further measures are required, then doubtlessly *artificial respiration* should be the measure employed.

THE SUPPOSED CASE OF DEATH FROM CHLOROFORM.—

PROFESSOR SIMPSON'S LECTURE ON THE CASE.

(*From the Scotsman of 9th February* 1848.)

In our Saturday's paper we gave an account of a case that occurred near Newcastle, in which a Coroner's inquest brought in a verdict of "death from congestion of the lungs, from chloroform-inhalation." The case has excited no small interest among the profession and public. On meeting his class in the University on Monday, Professor Simpson, who had received an account of the inquest, took this, the earliest opportunity he had, of commenting on the case, and clearly showed, from the published and official details, that the unfortunate patient, a girl of fifteen, was destroyed by artificial choking or asphyxia, and not by chloroform-inhalation. We have been enabled to procure an abstract of this important lecture, and have much pleasure in laying it before our readers.

The Professor pointed out, in the first place, the small dose employed, and the fact, that at the time of the operation, and immediately after it, the girl was not in a state of very deep anæsthesia, as she kicked and moaned, and her breathing and pulse were unaffected. While still torpid and lethargic, however, and perhaps in a state of fainting after the operation, the surgeon unfortunately filled the patient's throat and mouth with water and brandy, with the intention of reviving her. But this fluid she was incapable of swallowing in her partially faint and anæsthetic state. Consequently, at the first returning attempt at inspiration, a quantity of the fluid entered the throat, and the patient was instantly and fatally suffocated. She was choked or asphyxiated by her respiration being prevented by the layer of fluid placed over the top of the windpipe; and to produce this suffocating or drowning effect in her then torpid state, it mattered not whether the layer of fluid were ten lines or ten fathoms in depth—whether it merely covered and submersed the opening of her windpipe, or covered and sub-

mersed her whole body. She was directly asphyxiated or drowned, by a *sufficient* quantity of liquid being placed for this effect over and around the entrance of the larynx.

Dr Simpson then remarked, that the appearances observed after death in the congested lungs, trachea, epiglottis, &c. &c., of the Newcastle patient, were, one and all of them, precisely those observed after choking or drowning (which he showed by referring, in detail, to the published observations of Drs Copland, Carpenter, &c., on these points); while they were quite different in some essential particulars from those observed in the bodies of various animals killed intentionally by chloroform-inhalation, by a committee of the Medico-chirurgical society of Edinburgh. Thus, for instance, in the Newcastle patient, the blood was found after death fluid in the heart (as it is in all rapid cases of simple asphyxia and drowning); while the Edinburgh committee found the blood firmly coagulated in the heart in every animal which was made to inhale chloroform to a fatal degree.

The Professor next pointed out that death would inevitably occur to any person in deep apoplexy, narcotism, &c., if during these lethargic states the mouth in the same way were filled with liquid, so as to prevent the entrance of air, and the power of swallowing were at the same time temporarily suspended. The Newcastle patient was reported as having died "from the effects of chloroform;" but she died from the effects of artificial asphyxia when chloroformed. If a man were made insensible by opium, and then asphyxiated by a wet towel being laid over his nose and mouth, no one would report that he had died "from the use of opium," but from the effects of artificial asphyxia when opiatised. Dr Simpson expressed his sincere conviction, that if the patient had been simply left alone, and *nothing* had been done, she would have rapidly recovered, like all other patients, from the state of anæsthesia. It was the means used to revive her that produced death; not the chloroform-inhalation. He then went on to say, that in any case where the anæsthesia remained too deep or too long, the adoption of artificial respiration formed the proper measure of resuscitation —not the prevention of all respiration, by filling the mouth and throat by stimulant or other fluids. In a paper on chloroform, written in November last, and published in the Monthly Medical Journal, Dr Simpson had warned the profession that chloroform was an agent so potent as liable to produce serious consequences, and even death, when improperly used. He said he had for some time expected to hear (though the present case was not one) of fatal results from it alone, knowing, as he did, the many thousand

cases in which it was now constantly employed in Great Britain and throughout the Continent. Dr Simpson commented on the immense quantity of chloroform already made and sold here and elsewhere, and on the consequent vast numbers of persons that must have been already safely placed under its influence; and he stated that perhaps the use of as many thousand common doses of any of our common medicines, such as opium, antimony, senna, &c., by as many thousand different persons and constitutions, would probably scarcely have been accompanied with equal safety and equal impunity in the results. He cited several cases in which (before the introduction of ether and chloroform) surgical patients had died on the operating table ere the operation was begun, during it, or immediately after it was finished; and when the operation was by no means severe. Every such case happening for years to come will, of course, be eagerly ascribed to chloroform, though such things not unfrequently happened long before chloroform was ever known. And supposing even it did prove fatal, when indiscreetly managed, in one rare case in a hundred thousand, it would be no reason to argue against its utility, any more than there would be reason in arguing against the utility of coaches and railways, on the ground that occasionally, from carelessness, an accident or death occurred among the passengers. He concluded by stating that he had the satisfaction of believing, that, by saving much human suffering and agony, chloroform had already saved much human life. Such a case as the present was well calculated to teach a salutary degree of caution; but it could and would do no ultimate injury to the general adoption and spread of the practice of Anæsthesia.

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