

Account of a case of poisoning with corrosive sublimate / [Alexander Wood].

Contributors

Wood, Alexander.

Publication/Creation

[Edinburgh] : [J. Stark], [1839]

Persistent URL

<https://wellcomecollection.org/works/d8xxr95f>

License and attribution

This work has been identified as being free of known restrictions under copyright law, including all related and neighbouring rights and is being made available under the Creative Commons, Public Domain Mark.

You can copy, modify, distribute and perform the work, even for commercial purposes, without asking permission.



Wellcome Collection
183 Euston Road
London NW1 2BE UK
T +44 (0)20 7611 8722
E library@wellcomecollection.org
<https://wellcomecollection.org>

52731/P/1
82444
P. Keith
with W. Wood's acc
ACCOUNT

OF A

CASE OF POISONING WITH CORROSIVE
SUBLIMATE.

BY ALEXANDER WOOD, Esq.

Surgeon, Edinburgh, President of the Royal Medical Society.

(From the *Edin. Med. and Surg. Journal*, No. 138.)

THE patient, a dyer in Musselburgh, named Bell, 47 years of age, was admitted, on the 3d of September, into the Royal Infirmary, where I was at that time acting under Dr Shortt. The following is his case as stated by himself.

On the 26th inst. (nine days before admission,) feeling rather unwell, he applied to an apothecary for a calomel powder, and received from his (the apothecary's) wife about a teaspoonful of a heavy white powder, half of which he took in a glass of whisky about ten o'clock in the forenoon.

While swallowing it, he felt an acute burning sensation in his throat, and immediately after, he was seized with stiffness of the jaws, and vomiting, great pain in the bowels, and the discharge of bloody stools, accompanied with cramps. Ptyalism appeared the same evening; pain in the mouth continued, with ptyalism; and occasionally the pain in the bowels was very severe.

It does not appear that at that time any medicinal means were employed likely to prove effectual in counteracting the effects of the poison. At the time of admission the patient complained more of weakness than of any actual pain, except in the jaws, which were stiff and swollen. The gums were also swollen and spongy. There was considerable ptyalism, and the breath had a strong mercurial fœtor. There was no pain in the bowels, nor was any uneasiness evinced on pressure. He had three stools, according to his own report, of tolerable consistence, and a light colour, within the last twenty-four hours. There was no symptom of any irritation in the urinary passages. The pulse was 96, rather weak, and the countenance denoting exhaustion.

Notwithstanding active treatment, the patient's strength continued to decline. Considerable quantities of fluid blood occasionally escaped from his mouth without any effort like vomiting. This was believed at the time to result from the salivation, rather than from any morbid condition of the alimentary canal. The pulse continued small, and weak, and his whole appearance very much resembled that of a person in the last stage of typhous fever. At no time, however, did he complain of the slightest pain in the bowels. He died on the evening of the 8th inst. (fourteen days after swallowing the powder,) immediately after having passed by stool about six pounds of fluid blood.

In consequence of the circumstances attending the death of this patient, a warrant was issued by the authorities for a judicial examination of the body, and Mr Watson, surgeon, was directed to perform this duty.

The following were the appearances found on dissection.*

Mouth.—The mucous membrane opposite the two last molar teeth of the right side was of a dingy green colour, and in a state of slough. Over one of the tonsils there was a small ulcer. *Pharynx.*—On the surface of the pharynx were two irregular spots, on its posterior aspect about the size of a shilling, of a brownish colour, and presenting on their surface a number of small elevations.

Œsophagus.—About three inches from its termination in the stomach, the œsophagus presented a spot similar to those described as existing in the pharynx.

The *Stomach* contained about six ounces of partly coagulated blood. On its posterior surface, and immediately below the entrance of the œsophagus, a portion of the mucous membrane was found softened, of a green colour, and part of it hanging loosely in a state of slough. The rest of the mucous membrane of the stomach was of an uniform red colour.

The *Intestines* contained throughout their whole extent, in contact with the lining membrane, a layer of dark-coloured, grumous matter, which was mixed with mucus, and in the duodenum with bile.

The mucous membrane of the duodenum was of a yellow colour, and appeared healthy, that of the jejunum and ileum was of an uniform red colour. At the termination of the cæcum, and commencement of the colon, round spots existed, less than a sixpence in size, and of a greenish colour, somewhat softened, and irregular on their surface. Near the upper part of the ascending colon a similar spot was observed. On approaching the descending colon, the mucous membrane was observed to be reddened,

* It is proper to state that this report is not the official one, but was drawn up when the body was publicly opened by Mr Watson, from the appearances then displayed.

and irregularly rough on its surface. This appearance increased on proceeding downwards, becoming very marked towards the commencement of the rectum. At some parts blood was seen effused into the submucous cellular tissue, forming little hemorrhoidal-looking excrescences. Towards the rectum the number of these diminished.

Chest.—The large veins contained some coagulated blood. The heart and valves were healthy. The lungs were spongy throughout. On making a section of the posterior part of either lung, a considerable quantity of frothy serum escaped.

Brain.—Considerable effusion had taken place into the subarachnoid cellular tissue, stretching the arachnoid membrane across the convolutions of the upper surface of the brain.

The lateral ventricles contained rather more serum than natural. The substance of the brain was of its usual consistence.

Salivary Apparatus.—The parotid and submaxillary glands differed but slightly from their natural appearance, seeming only a little softer. The pancreas was natural in appearance and consistence.

Urinary Apparatus.—The kidneys contained a slight deposition of yellow granular matter, but no traces of inflammation were observable.

The bladder was quite healthy.

The patient laboured under phimosis; but no examination was made to ascertain whether or not a sore existed on the penis.

We cannot suppose, that, after the perusal of the above case, any doubt can exist as to corrosive sublimate having been the powder swallowed, so accurately do the symptoms correspond with those detailed by the best toxicologists, as resulting from the action of this powerful mineral salt.

The symptoms of irritation in the œsophagus commenced during the very act of swallowing,—a circumstance which is dwelt upon by Dr Christison as one, by which poisoning by this substance may be distinguished from that resulting from arsenic.*

This was observed particularly in the case of Mrs Hodgson, related in a former number of this Journal, who, immediately on taking the bolus in which the poison was contained, was attacked with a sense of violent burning in the throat, gullet, and stomach;† and in a case related by Mr Blacklock, whose patient “had scarcely got the drug down, when he began to retch, and to complain of constriction in his throat, accompanied with a burning sensation, and difficulty of swallowing.”‡ And in a case recorded by MM. Dumonceau and Planchon, “the patient experienced the caustic effects of the poison the moment he had swallowed it.”§

* Christison on Poisons, p. 35.

† Vol. xxii. 438.

‡ Edin. Med. Journal, xxxvi. 92.

§ Journal de Medecine, xlix. p. 36.

The bloody purging and vomiting which occurred during the first few days are also stated by Dr Christison to follow the action of corrosive sublimate more commonly than that of arsenic, "obviously," he adds, "because the former is a more powerful irritant."

But, independently of every other proof, the profuse salivation under which the unhappy patient laboured on his admission into the hospital, and the peculiar foetor of the breath, leave no doubt that he was under the influence of some compound of mercury; while the immediate appearance of the irritant action, along with the other symptoms detailed, lead to the conclusion that corrosive sublimate was the active preparation employed.

The chief peculiarities of the case, in a medical point of view, are, *first*, the early period at which salivation commenced.

It is doubted by Dr Christison whether salivation has ever occurred sooner than the beginning of the second day, and it is suggested, that, in a case described by Mr Anderson of Belfast, where it was supposed to have taken place only nineteen hours after the poison had been taken, the salivation arising from inability to swallow, owing to soreness of the throat, had been mistaken for the true mercurial ptyalism.*

In the case of Bell, however, although we have only the statement of the patient himself, that salivation occurred at tea-time, (that is seven hours after,) on the day on which the poison was swallowed, yet, after repeated interrogations, I felt convinced that in this account he was correct. That, in his case at least, there was no difficulty in swallowing, is proved by his having drunk diluents copiously, *and without any difficulty*, during the earlier stage of the disease.

The length of time during which the patient survived, while the disease was proceeding to its fatal termination, is a rare occurrence.

With regard to the ordinary duration of the disease when the patient dies of the primary symptoms, Dr Christison observes, that "it varies from twenty-four to thirty-six hours." "It is probable," he continues, "that a few may last three days; but only one instance has come under my notice where the duration was greater; and in that instance, which is described by Dr Venables, life was prolonged under great agony from pain in the belly, bloody vomiting, diarrhoea, and suppression of urine, but without salivation for eight days."†

It is true, that, in the case of Bell, the disease could not strictly be said to be in the first stage, salivation having already commenced; but we think the symptoms during life, as well as the

* Op. cit. p. 363.

† Op. cit. p. 362.

appearances found after death, satisfactorily show that the patient died, not from any of the secondary effects of the poison, but from the consequence of the primary irritation, caused in the stomach by its use.

In the case of Bell there were no local symptoms at the time of his admission into the Hospital, or during his stay there, which could have led us to suspect the existence of the serious organic lesion which the *post mortem* examination disclosed, and, in this respect, it differed widely from the case related by Dr Venables. Though the bowels were inclined to be open, yet diarrhœa could not be said to exist, and at no time did the patient ever complain of the slightest pain in the bowels, nor betray any uneasiness when pressure was made upon the abdomen. This I consider a fact of great practical importance, from its illustrating the extent to which disorganization of the intestines may proceed without the occurrence of any *local* symptom to direct our attention to the lesion, provided always the *mucous membrane alone* be implicated.

By Dr Stokes* it is stated, that "in acute gastritis," (as the result of swallowing acrid poison,) "there is generally great tenderness of the epigastrium, so that the slightest touch, the weight of the bed-clothes, or any muscular effort, will produce severe distress." Anxious to ascertain on what foundation this opinion rested, I have examined, as far as was in my power, the isolated cases recorded in the various medical periodicals, and I nowhere find that stress laid on these symptoms, which might naturally be expected, did they usually appear as prominently as the statement of Dr Stokes would lead us to believe. This is particularly taken notice of by Dr Mackintosh,† who illustrates the frequent absence of all local symptoms, where, nevertheless, serious organic lesions may be going on, by the case of a soldier of the 17th foot, who died eight or ten days after swallowing two drachms of this very substance, and in whom the stomach was found in a state of ulceration.‡

That ulceration of the stomach frequently does exist without any local symptoms to direct us to it, few, we think, will be disposed to deny.

In Dr Abercrombie's work on the stomach, several cases of ulceration, proving fatal by perforation, are related, where the patients had suffered only from slight and occasional dyspepsia. And the

* Cyclopædia of Practical Medicine, Art. Gastritis.

† Practice of Physic, Vol. i. p. 297.

‡ By the kindness of Dr Thomas Wood, I have been permitted to examine a preparation of part of the intestines of this patient, along with several drawings illustrative of the case. The large intestines were covered with numerous large black, gangrenous ulcers, similar to those described as existing in the acute dysentery of tropical climates, and a great part of the mucous membrane was hanging loose, in shreds, apparently in a state of slough.

same author quotes a remarkable case, occurring in the practice of Dr Kellie, of Leith, where sudden perforation of the stomach took place, in a "strong and healthy-looking servant girl, without any previous complaint whatever." The stomach in this case exhibited extensive disease, which must have existed for a considerable period antecedently to its fatal termination.

In a well-marked case of gastritis, which lately came under my notice, I directed my attention particularly to the effect of pressure applied to the abdomen, but failed to observe that extreme sensibility which has been described. The patient had attempted to poison herself with a large quantity of laudanum, and after evacuation of the contents of the stomach, strong stimulants, chiefly, I believe, the *aqua ammoniacæ*, in large and repeated doses, had been exhibited. On the third day symptoms unequivocally pathognomonic of *gastritis* appeared; but, although the general sensibility was completely restored, the patient suffered very slightly, if at all, from pressure on the abdomen. As the disease yielded to free depletion, there was no opportunity of verifying the diagnosis by actual examination; but the symptoms were such as to convince numerous practitioners who saw the case, that it was one of acute gastritis. I have dwelt thus particularly on this circumstance, because I am inclined to think that pain on pressure is very frequently absent, even in acute cases of inflammation of the gastro-intestinal mucous membrane, and, indeed, that it is rarely observed unless when the serous membrane is also implicated.*

In most of the cases which have been recorded, where any quantity of corrosive sublimate has been swallowed, the patients suffered much from irritation of the urinary passages; and to such a degree does this at times proceed, that even the external parts are found to be black and swollen. In the case of Bell, however, nothing of this kind was complained of, and the bladder after death presented none of those deviations from the natural appearance which, in similar cases, have generally been observed.

In the necroscopic appearances there is perhaps nothing more than might have been expected; but I cannot avoid drawing attention to the spots which were found at the termination of the cæcum, and commencement of the colon. They are described in the report given of the dissection, as about the size of a sixpence, of a greenish colour, somewhat softened, and irregular on their surface.

Though varying somewhat in appearance from those described as existing in the pharynx and œsophagus, yet their nature would

* In farther illustration of this, see cases recorded in Vol. xlv. of this Journal, pp. 262 and 275, and Craigie's Practice of Physic, Vol. i. p. 888.

seem to have been identical, and very similar to the one observed by Dr Venables, which, in his case, existed on the superior surface of the stomach, about midway between the cardiac and pyloric orifices, and which that gentleman describes, as "a very remarkable kind of opaque, yellowish white spot, of an irregular form, and about the size of a sixpence." I am inclined to believe that these spots resulted from softening of the intestinal mucous membrane, and that the appearances described as existing in the descending colon and rectum were produced in the same way rather than by the effusion of lymph.* "The effusion of lymph as a result either of natural inflammation, or of that caused by poisons," is stated by Dr Christison to be rare; "at least, by no means so common as would be supposed from what is said in systematic works."†

In a medico-legal point of view, this case, though one of considerable interest, is easily disposed of. The length of time which had elapsed between the swallowing of the poison, and the death of the patient, afforded little hope of its being detected in any part of the body, and this, as far as I know, was not attempted. The question has been suggested, how far a medical man is entitled to say, that death, in any case, has resulted from the effects of poison, unless he can actually detect its presence in the body? But, with every wish to submit to the authority of those who have maintained this opinion, there are, we cannot but think, cases, where, independently altogether of the moral evidence, the witness can affirm, that the symptoms preceding, and the appearances detected after death, have resulted from the action of some powerful poison, and even, as might, I think, in this case, have been done, to speak decidedly as to what that poison was.

The statement made by the deceased, on his admission into the hospital, conveyed the impression that the powder which caused his death was given him by mistake for calomel. I believe, it turned out, on inquiry, that he had sent expressly for corrosive sublimate, having been informed, by a fellow-workman that it was an excellent cure for a form of venereal disease, under which he laboured.

This confirms an opinion expressed at the time of the *post mortem* examination, that the existence of this disease should have been mentioned in the official report drawn up, as it was ex-

* This peculiar softening of the mucous membrane, I think, I have occasionally observed, though in a slighter degree, on examining the intestinal mucous membrane of children who died of some disease, for the cure of which calomel had been very freely administered, and I have more than once heard *that* termed effusion of lymph, which I suspect would have shown itself, on closer examination, to have been softening of the mucous membrane.

† Op. cit. p. 122.

tremely likely, that, had a trial taken place, this would not have proved an unimportant circumstance, especially when death was caused by a preparation of mercury.

It is impossible to be too minute in noticing the *leading features*, at least, of *every* alteration from the healthy state, which may be found in bodies, on which we are required to furnish a legal report; and in support of this opinion, the authority of Mr Watson himself may be quoted, who, in reporting two cases in this Journal, where he was directed by the authorities to examine the bodies, premises, "that the task is often difficult, and requires the utmost attention, even to very minute particulars; for circumstances, apparently trifling in the medical evidence, often turn out to be of great importance in elucidating and connecting the moral evidence, either of the innocence or guilt of the accused."*

I cannot conclude this case without remarking, that the fact of the deceased having sent a written line to the apothecary for the drug, by no means frees that individual from blame, as it certainly would have been only a necessary precaution, before dispensing such a deadly poison, to have inquired as to its ultimate destination. Cases of poisoning from the carelessness of apothecaries are, I understand, becoming alarmingly frequent. Within a very short time two have occurred in my own experience, where, from the want of a qualified assistant, in the absence of the apothecary himself, a wrong medicine was dispensed, which, in one case proved fatal, and in the other gave rise to severe and protracted suffering.

In the establishment where Bell procured the poison the individuals in charge were the wife of the apothecary and her son, a linen draper's apprentice.

* Vol. xxxvi. p. 86.