

Amputation of fingers,	3	3	
Partial resection of tibia, olecranon, fibula,	3	3	
Resection of lower jaw and part of tongue,	1	1	
Resection of knee-joint,	1	1	
	21	17	4

The effect of this dressing on the progress of diffuse cellulitis or phlegmonous erysipelas has seemed to me equally remarkable. The affected part being kept in a sort of continued bath, but in a bath which does not cause maceration of the tissues, its swelling and redness are observed to diminish. I make use of Dobson's plan, however, when the disease is first commencing, and paint the part with tincture of iodine. Whatever part belongs to the antiphlogistic remedies and what to the dressing, out of thirty-six cases of diffuse phlegmonous erysipelas (eighty-seven cases of the hand, six of the hand and forearm, one of the wrist, eleven of the forearm, seven of the arm, two of the leg and one of the scalp), I have not had a single death; all rapidly recovering without even incurring those deep and extensive lesions which too often leave in their train complications more or less severe.

If, in fine, the dressings used can have any effect on the appearance of the complications so common in some if not in the majority of our hospitals, it is especially with reference to erysipelas that this influence is to be sought.

Recalling the time when, as assistant to my teachers at La Charité, Messrs. Denonvilliers and Velpeau, I hardly dared to open an abscess for fear of the supervention of erysipelas, I am deeply impressed on seeing two years go by without the development of a single case in a ward where a great number of men were treated for wounds and lesions often of a grave nature. Formerly, when I performed an important operation like an amputation, my chief anxiety was lest pyæmia should follow; what I anticipated as a constant dread was death; what I now expect as the proper result of active intervention is recovery.

However slight may be the innovation I have introduced in dressings, I cannot but think that to it is to be accredited a considerable share in the result attained. Without doubt it would be better to compare the results of a longer period, two or three years more, in order to place me beyond the error of premature judgment; but I believe, if the confidence in facts observed

was well grounded, our patients would be much benefited by a useful precaution; I thought that the introduction of this method into hospitals where erysipelas and pyæmia have prevailed for many years would allow its efficacy to be tested more fully; I hoped that if farther facts do not justify my expectations, the good will and indulgence of the academy would pardon me for having deprived it, on a subject of so slight consequence, of time which it could have employed more usefully.

## Selected Papers.

### DEATH RESULTING FROM AN OVERDOSE OF STRYCHNIA.

By CHARLES BULLOCK.

A CASE of death, resulting from an overdose of strychnia, occurred recently in Pennsylvania under circumstances which render the case interesting and instructive to both medical practitioner and pharmacist.

The patient had been laboring under an attack of partial paralysis, and the medical attendant directed the following prescription:—

R. Strychniæ muriat., gr. iss.;  
Liq. ferri iodid., ʒvi.;  
Syr. zingiberis q. s. ut ft., fʒiij.

M. Sig. dose a teaspoonful.

The whole of this prescription was used as directed, and the bottle returned to the druggist, by order of the physician, for renewal of the medicine, the dose on renewal being increased to one and one-half teaspoonful. This was taken with apparent benefit to the patient, until the last dose, exhausting the contents of the bottle, was given. About an hour after, while at a meal, the patient complained of strange sensations, and was soon affected with tonic spasms, which are described by two medical gentlemen, who were called in, as well-marked results of an overdose of strychnia. Proper remedies were promptly used and the spasmodic action passed away, leaving the patient able to speak, but greatly prostrated, and, failing to respond to stimulants, death ensued in a few hours.

The bottle which contained the medicine was produced before the coroner's jury (composed of physicians and pharmacutists). It appeared to have been drained of its contents to make up the last dose; adhering to the bottle were well-formed crystals, some of them about a line in length

and one-fourth line in thickness. Unfortunately, no chemical analysis was made to determine whether the crystals were *undissolved* muriate of strychnia or iodide of strychnia. A microscopical examination failed to carry much weight, on account of the destruction of the form of the crystal by washing previous to mounting, the size of the crystal not being accepted in evidence, as crystals of iodide of strychnia were shown nearly as large, made by simple deposition from a warm saturated solution.

The pharmacist by whom the prescription was compounded testified, "that he weighed out the muriate of strychnia, threw it into a graduated measure, added the two other ingredients, and stirred them up with a bone spatula until he thought the strychnia had all dissolved, as he could see no undissolved crystals or solid matter." To a question, he replied that he noticed an opalescent appearance, resembling a quinine mixture.

An inmate of the house with deceased testified, "that she was sure that the bottle of medicine was never shaken."

The prescription as above given had been sent to several prominent pharmacists, and the compoundings criticized by the jury. In some no chemical change was discernible; in others crystals readily recognizable as iodide of strychnia were floating through the mixture and deposited in the bottom of the bottle. In one case large crystals were contained in the bottle, evidently of the original strychnia salt undissolved.

The jury, after weighing all the evidence, returned a verdict of "Death from prostration, following the accidental administration of an overdose of strychnia."

"The jury further find, from examination of the assistant pharmacist, by whom the prescription was compounded, a want of proper attention to, or information in manipulation, which they cannot pass without notice and reprimand, as both efficiency and safety may depend on careful manipulating skill when potent remedies are prescribed."

"They further find that the ingredients of the prescription are subject to such chemical changes as renders the strychnia contained therein *liable* to be precipitated to the bottom of the bottle containing the prescription; and if the bottle should remain without proper agitation, an overdose of strychnia might result."

So much for the history of the case. We now wish to make some remarks on the chemical and pharmaceutical character

of the prescription, and throw out some thoughts on prescribing and compounding, as suggested by this case.

Muriate of strychnia is not official in the U. S. nor British Pharmacopœias, and is rarely prescribed. It is much less soluble than the sulphate, requiring 50 parts of water, at 71° F., for solution (Gmelin's Handbook). The solubility of iodide of strychnia is not found in any authority which I have consulted. It is spoken of as *very insoluble*. My own determinations make its solubility 0.54 parts in 100 parts of water, at 60° F.\*

When a drop of syrup of iodide of iron is added to a cold saturated solution of muriate of strychnia, the insoluble iodide of the alkaloid is immediately formed.

I have before me the prescription alluded to in this communication, put up in two ways. In both the muriate of strychnia was previously dissolved in 3iss. of water. In No. 1 the strychnia solution was mixed with the iodide of iron, and the ginger syrup immediately added and well shaken. In No. 2 the strychnia solution was first added to the syrup of ginger, well shaken, and the iodide of iron added. In No. 1 the bottom of the bottle is covered with crystals of iodide of strychnia, and many floating crystals suspended in the mixture. In No. 2 no decomposition is discernible, and after standing four days no deposit has taken place.

On page 1418 of the U. Dispensatory, 13th edition (1870), after quoting from this Journal the experiments of Bouchardat and Gobley on the insolubility of iodine combinations with strychnia, the authors add:—

"But though this fact *establishes the impropriety of combining solutions of iodine and strychnia in prescriptions*, yet it by no means justifies the inference drawn from it, that iodine might serve as an antidote to strychnia. Indeed, the contrary has been proved by the experiments of Mr. S. Darby, who found the precipitated iodide of strychnia was highly poisonous to the lower animals, &c."

We have, in the above quotation, information given regarding the insolubility of iodide of strychnia and the impropriety of prescribing iodine and strychnia solutions in combination.

It is clearly the duty of the pharmacist to see, when potent remedies are prescribed in solution, that the *solution is complete*. He ought, also, if allowed to

\* Hydrochloric and even acetic acid much increase the solubility of the iodide, without apparent decomposition, when the acids are very dilute.

dispense such articles, to be informed regarding the decompositions liable to occur, and if possible guard against mischief likely to result therefrom, or else return the prescription to the writer, with his objections clearly stated. He should also notice, when such a prescription is returned for renewal, whether any deposit has taken place in the bottle, and remove it by washing should such be the case. The question whether it is his duty to mark the bottle "Shake well," when the recipe gives no such direction, is one admitting of different opinions; but we think, when so marked, the error, if any, is on the side of prudence.

We would suggest to physicians, when prescribing a remedy like strychnia in solution to its usual *full dose*, to prescribe it alone, and to give *separately* whatever else may be deemed advisable. We have in our experience been made aware of changes unforeseen and unknown to us, until the event developed the facts.—*American Journal of Pharmacy*.

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## Medical and Surgical Journal.

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BOSTON: THURSDAY, SEPTEMBER 1, 1870.

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### THE CHILDREN'S HOSPITAL.

MORE than a year ago, our predecessors in office placed in their editorial columns a communication\* relating to a new charitable institution in Boston. The idea of founding a hospital exclusively devoted to the care of sick children had long been floating in the minds of one and another of our physicians and benevolent citizens—suggested either by a humane consideration for the peculiar wants of that interesting class of sufferers, or by a knowledge of the good results which have been accomplished by such establishments in the Old World. Only one attempt, however, had hitherto been made to carry it into effect; and that, on account of the expense and unforeseen practical difficulties, was, after a brief experiment, reluctantly abandoned by its charitable projector. The idea was brought to the notice of some of our benevolent citizens somewhat more than a year ago, and, with their coopera-

tion, the plans suggested were put on trial. We are glad to be put in possession of facts which show that the anticipations and hopes of the founders have been fully realized—indeed, that they have gone much beyond what was expected.

The views put forth by the originators of the plan were so fully expressed in our former number that we refrain from repeating them at length. The subject had been well studied before it was announced to the public, and the experiment was only made after mature deliberation and a careful study of the needs of the public. It was well known that provision already existed in Boston for the care of sick and maimed children; but it was seen that there was a large class of our poorer population who were constantly allowing their children to pass through acute attacks of disease in their own poor dwellings, in the midst of the various disadvantages which poverty entails; it was well known that the parents of such children were unwilling to be separated from their little ones, under such afflictions, by placing them in general hospitals, looking on hospitals as a place principally for cases of accident or as a last resort in illness. The projectors of The Children's Hospital hoped that they might accomplish that which the general hospitals could not so readily reach, by inducing the parents of children to send them to a hospital, made attractive in many ways, and do away with the aversion which the poor naturally feel for institutions of the kind, and in this wise *commence the education* of the poorer classes—inducing them to put their children under comfortable and hygienic circumstances while sick or maimed. The originators of the plan recognized the fact that there were prominent reasons why children could not be so well cared for in adult hospitals as in those especially devoted to their use; they knew that there were cases which were constantly denied admission at the other institutions of our city, on perfectly reasonable grounds, which could be properly admitted to a charity of their own. They wished to carry out a system, already so successfully inaugurated in some of our charities, of voluntary nursing by kind and cultivated

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\* Journal, April 1, 1869.