On the whole, then, I conclude that in all three instances we produced in this man not iodism alone, but iodo-plumbism, that is, lead-symptoms resuscitated and reinforced by iodine. All three attacks were originated by iodine; two were characterised in the main by iodism, and in a lesser degree by plumbism; one was characterised in the main by plumbism, and in a lesser degree by iodism.

I acknowledge freely that it would be difficult to prove all this—to demonstration, as it is called. The internal pains and other symptoms of lead-poisoning, it must be remembered, never entirely ceased, but persisted more or less throughout, recurring from time to time. It is, indeed, immensely improbable that the symptoms of lead-poisoning in an acute form should by mere accident three several times coincide exactly with an outbreak always determined by iodine, and twice prominently exhibiting the characters of iodism. Nevertheless, some people might say that such a thing is conceivable, and that the events recorded were chance concurrences and nothing more. Again, it must be remembered that iodism in some of its features bears a rather close resemblance to plumbism. We cannot, therefore, as far as the present case goes, absolutely demonstrate that iodo-plumbism, whose existence, theoretically, would seem essential to the principle of the treatment; but assuredly we approach as nearly to an absolute demonstration as clinical experience will ordinarily allow. Anyhow, we can demonstrate iodism, immediately and invariably followed by marked amendment; and that is the main point for all practical purposes. The same practical conclusion is confirmed by the previous history of the case; but inasmuch as this is hearsay evidence only, I have declined to dwell upon it.

It would be unfair to ignore or undervalue the efficacy of the concurrent remedies employed. To these I ought in justice to add that most powerful remedy—time. To all appearance, however, the iodine played the foremost part; the rest were secondary and subordinate.

CLINICAL REMARKS

ON THE

TREATMENT OF NOCTURNAL ENURESIS AND AN ALLIED AFFECTION.

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IN the *Lancet* for November 19th, 1870, Dr. William Thomson, of Peterborough, has recorded two cases of nocturnal incontinence of urine treated successfully by hydrate of chloral. Dr. Thomson's first case was that of a girl, aged 12 years, who enjoyed perfect health, with the exception of wetting her bed every night, and of having a frequent desire to micturate in the daytime. After taking one dose of fifteen grains of hydrate of chloral, the nocturnal symptoms were checked, and, after a fortnight's treatment by the same drug, the day symptoms also disappeared. The second case was that of a boy, aged 13 years, who for seven years had had nocturnal enuresis. This boy was also cured of this distressing malady after taking one dose of the medicine.

A short time after reading Dr. Thomson's note in the *Lancet*, I had an opportunity of putting this drug to the test in this affection. My patient was a girl, aged 15 years, who had wetted her bed every night for nine years. She was ordered fifteen grains of hydrate of chloral every night, and after taking the first dose of the medicine there was no return of the complaint. At the end of six weeks, she had had no relapse of her infirmity.

Being satisfied with the efficacy of this drug in nocturnal enuresis, I next resolved to try its value in a closely allied functional disorder, viz., nocturnal incontinence of semen. In many cases, both of nocturnal incontinence of urine and of semen, there is reason to believe that spasm is an important factor. As you are all aware, the bladder is furnished with two sets of muscular fibres—the detrusor urinæ and the sphincter vesicæ—the latter being the antagonist of the former. In a healthy person, these two sets of muscular fibres counterbalance each other; but under the influence of volition, as when we wish to micturate, the detrusor muscle can overpower the sphincter, which can be controlled by the will. In cases of nocturnal enuresis, the influence of the will on the fibres of the sphincter can, when the person is awake, enable this muscle successfully to oppose the spasmodic contraction of the detrusor urinæ, and thus prevent diurnal enuresis; but when the patient has gone to bed and fallen asleep, this controlling power of the will is lost, and thus the sphincter is unable to counteract the action of the detrusor, and as a consequence of this, the urine escapes from the bladder. In many cases of spermatorrhœa, also, Trousseau was of

opinion that the vesiculæ seminales entered into a state of erection, like the detrusor vesicæ muscle, and that semen was ejected in consequence of this excessive contractility. It is, also, by no means uncommon to find that persons, who are troubled with nocturnal incontinence of urine in boyhood, suffer from nocturnal incontinence of semen when they have arrived at the age of puberty; and occasionally the two affections may co-exist in the same person, as in a case which came recently under my notice.

A gentleman, aged 27, consulted me on February 1st, 1871, for nocturnal emissions and incontinence of urine. He had been troubled with the former for nine years, but had never wetted his bed before the previous night. He found the spermatorrhœa worse when in Cambridge, scarcely ever having passed a night without one or more emissions. He informed me that a brother who died had enuresis when a boy. The patient passed urine in a good stream; his bowels were regular; he had at times severe attacks of neuralgia. His health was completely undermined by the spermatorrhœa; he felt exceedingly feeble, and unable to exert himself either mentally or bodily. He had taken strychnia and other remedies without benefit. I ordered him fifteen grains of hydrate of chloral every night, and recommended him not to drink spirits at night, which he informed me he seldom did. On February 4th, there had been no return of the spermatorrhœa or of the inability to hold his urine during sleep. On February 22nd, my patient said he felt quite well, and had had no return of his complaint, which gratified him very much, as he was shortly to be married.

My next case was somewhat similar to the above, except that there was no difficulty in retaining the urine. The nocturnal emissions also occurred less frequently, and the patient had only been troubled with them for nine or ten months. The result of the treatment by chloral hydrate was quite as satisfactory as in the preceding case; and, as a proof that the medicine was really efficacious, I may state that the patient one evening forgot to take his medicine, and the consequence was that his infirmity returned.

Whenever, therefore, there is reason to believe that nocturnal urinary and seminal incontinence are due to spasm (not the result of irritation reflected from a fissured anus, worms, urinary calculi, congenital phimosis, or of structural disease of the walls of the bladder, etc.), hydrate of chloral will be found a most serviceable drug in their treatment, in consequence of the acknowledged power of this drug of allaying spasm, as observed in tetanus and other spasmodic disorders.

If I were asked what advantages I claim for hydrate of chloral over belladonna in the treatment of these affections, my answer would be: 1. That the effect of belladonna is not so immediate, frequently taking weeks to produce any marked control over the disease; whereas the influence of chloral hydrate is most rapid, the malady frequently disappearing after the first dose of the remedy. This quick improvement cannot be over-estimated in the treatment of these affections, upon which the mind exerts a powerful influence. 2. That belladonna sometimes induces profuse diarrhœa, a result which I have never known chloral hydrate to produce. 3. That belladonna, when pushed to the extent to which it is necessary to be really efficacious, not infrequently impairs vision, etc., which is not the case with chloral hydrate. 4. That belladonna has, in my hands, on several occasions failed to be of any service.

Of course I am aware of the fallacy of the reasoning *post ergo propter*; but, on theoretical grounds alone, I am of opinion that a more extended trial of the chloral hydrate in these affections will establish the therapeutic value which is claimed for it.

There is one other point in connection with nocturnal enuresis which has interested me very much, and that is the close similarity between this affection and epilepsy; indeed, nocturnal enuresis might, without any great error, be called epilepsy of the bladder. I will, therefore, conclude my remarks by stating the points in which I think the analogy holds.

1. Enuresis and epilepsy are both markedly hereditary, and one neurosis may be transformed into the other; patients who have had incontinence of urine in youth sometimes becoming epileptic after puberty.

2. Both affections are influenced by the same system of nerves—the sympathetic, which may, under certain circumstances, induce spasm in the muscular fibres of the small arteries of the brain, as it does in the unstriated muscular fibres of the detrusor vesicæ muscle.

3. Belladonna is of service in the treatment of both these affections, and probably acts by its influence on the sympathetic.

4. Epilepsy may be either essential or due to reflex irritation, and so may nocturnal enuresis.

I have not tried hydrate of chloral as a remedy in epilepsy; but I am of opinion that it will be found useful in the treatment of some forms of this affection.