

## Clinical Lecture

ON

## INCONTINENCE OF URINE.\*

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GENTLEMEN,—A young woman has just been cured and discharged from ward No. 10, to whose case I shall now direct your farther attention.

The malady under which she was suffering is one of a very distressing kind, and is by no means rare; yet it is one which, like some other functional disorders of the urogenital system, receives less than its proper share of attention, chiefly because the patients labour under a double shame which compels them to secrecy. As in spermatorrhœa, for example, so in the kind of incontinence of urine which closely resembles it, there is a consciousness of pollution which makes it doubly difficult for them to speak freely on a function which under any circumstances is not easily discussed. For the same reasons I contented myself with pointing out the young woman to you in the ward, and deferred any farther remarks upon her condition until I had the opportunity, which her absence now gives me, of handling it freely. Her history is as follows:—

Louisa T—, aged eighteen, has suffered from incontinence of urine at night for many years, as long indeed as she can remember. The recurrence is rather variable; sometimes she may pass a night or two nights without wetting her bed, but this relief is rare; as a rule, on awaking in the morning she finds her bed wet, and she has reason to suppose that expulsion of urine takes place on many nights more than once. This disorder is not only very distressing in itself, but is very injurious to her in her calling as a domestic servant. She came to us in despair on losing her last situation, scarcely hoping to be cured, but driven to seek some new remedy for a disorder which caused so great annoyance both to herself and all those about her. These facts were told to me in private by the girl and her mother when they came first to the hospital. Beyond the nocturnal incontinence I heard but little complaint of her health. The girl had certainly somewhat of the dull and downcast look we see in many epileptics, but she had not suffered from epilepsy. Her menstrual functions were normal. The family history was very imperfect. Every effort had been made to prevent the nightly discharge, but in vain. As in all such cases, the patient had avoided liquids during the latter part of the day, was most careful in emptying her bladder before retiring to bed, and very frequently she submitted to be called up once or twice during the night to pass her urine. In spite of these precautions, which were as fruitless in her case as in others of the same kind, the involuntary ejaculations still occurred during sleep. She believes that she generally loses urine twice during sleep—first about midnight, and the second time early in the morning. It does not appear, however, that she is a very sound sleeper, for her slumbers are easily broken when her mother awakens her for the purpose of natural relief. The long history of the case prevented the suspicion that any such irritants as worms, fissure of the anus, intra-vesical ulcers or calculi, were present; nor, on examination, could any such causes be ascertained.

Such is one example of a malady which is tolerably familiar to those who follow my out-patient practice, where we have generally five or six cases of it on our books. Children are the most common subjects of it; but not rarely it abides until early adult life, as in Louisa T—.

Now let us compare with the case I have just related to you the following, the notes of which have been placed in my hands by Mr. Drake:—Catherine J—, aged twenty-two, a domestic servant, was admitted into my wards during the summer vacation for general nervous debility. When admitted we were made aware that she also suffered from in-

continence of urine. By day and night alike her water would dribble almost imperceptibly from her, issuing from the bladder in drops or jets so small that they defied the precaution of using the vessel. If she coughed or made other like efforts more considerable quantities would suddenly escape from her. The incontinence was no worse at night, but was rather less severe, unless by lying on her back she threw the weight of the contents of the bladder upon the neck of it; in which case she had discovered that the incontinence became excessive.

My last patient, Louisa T—, was, as you remember, treated and cured with belladonna. For Catherine J— belladonna was never prescribed, but liquor strychniæ. In a few days she was thus enabled to hold her water for half an hour, and in a week she recovered almost complete power over the bladder. You will see at a glance, when the two cases are set side by side, how different they are, and how different are the means needed for their respective cure. If we seek a parallel to the case of Catherine J—, we find it in a case of incipient paraplegia now under my care in No. 10: this woman tells us that sometimes her urine escapes from her by day, and that she is always obliged to hasten to the closet the moment a sensation of micturition is felt, or she would find herself overtaken.

But in other cases of paraplegia you may remember that retention of urine is seen, and we have the fear of this dangerous event always before us in the continued fevers. In these cases incontinence, diurnal and nocturnal, may also be seen; and it does not then signify a continual escape of the secretion as fast as it is formed, but rather signifies overflow—the bladder being filled beyond its capacity. A careless practitioner who is unaware of this, and who is not awake to the duty of percussing the bladder daily in such cases of fever or of palsy, may by the neglect of catheterism become responsible for the death of his patient. Here the explanation is simple: the patient in fever is unconscious of the sensation which naturally calls him to micturate; in palsy he also wants consciousness, or he may want power in the muscular coats of the bladder.

If, on the other hand, we seek a parallel to the kind of incontinence seen in Louisa T—, we find it in the spasmodic ejaculations occurring in cases of incontinence of semen. It is a mistake to suppose that incontinence of semen occurs as a consequence of onanism only; it may be due to other causes, and occurs often enough in continent or married men. In both these latter incontinences we have the same element: a sudden spasm, with consequent emission. The fact of emission is of course an accident, the spasm being the primary element; and we find accordingly that in nocturnal enuresis spasm is made manifest when ever so little urine is present, and no doubt occurs at times when too little urine is present to make its effects very evident. You will see that this event then differs in no essential way from epilepsy. Like it, epilepsy tends to recur, in its earlier stages at least, by night; and if there be no secretion voided, it is merely because the muscles involved do not happen to be the continents of a secretion—a difference which is accidental only. Like it, too, nocturnal epilepsy is brought best under control by the use of belladonna.

Let us now consider what are the elements with which we have in all these cases, and in nocturnal incontinence especially, to deal. We have in the bladder two sets of muscular fibres—the one set called collectively the detrusor set, and the other called collectively the sphincter, the two sets being opponent. In addition to this, we have afferent and efferent nerves, connecting these muscles with the sacral plexus, and with a definite region in the spinal cord, which experiment and observation lead us to fix somewhere about the sixth dorsal vertebra, and there they are brought into relation by means of nerve-cells. Other fibres pass onwards to the encephalon, and establish consciousness of irritation, and also that regulating power over the actions of the bladder which endows us with the valuable power of voluntary retention and emission of urine. Supposing, then, that this machinery goes wrong, we have to seek the fault first in the structure of the bladder itself. Such faults do not, however, come under our consideration at present, as we are dealing, not with surgical matters, but with diseases of the nervous system. We shall, then, look beyond the bladder to its innervation, and any one of the following faults is possible: (1) There may be excessive

\* This lecture was first delivered about three years ago, and was repeated on Nov 17th. The cases now related are, however, recent.

irritation or irritability of the afferent nerves; or (2) this may be deficient. (3) There may be excessive irritation or irritability; or (4) this may be deficient. (5, 6) There may be one or other of these opposite states in the nerves communicating between the spinal and the encephalic centre. The efferent encephalic fibres exercise, I say, that moderating action upon the central spinal actions which between the medulla and the heart is called inhibitory; in the latter case the heart is regulated in obedience to the less complex variations of organic actions; in the former case the movements of the bladder are regulated in accordance with the more complex variations of animal actions. When a very powerful impression upon the encephalon paralyzes these fibres, we have at once that spasm of the detrusor which we may see in a schoolboy brought up to be whipped. If, on the other hand, the encephalon remaining unaffected, the whipping be upon parts supplied by the sacral plexus, we have excessive stimulation of the afferent spinal fibres, and the same consequent tendency to discharge of energy in the urogenital system.\* Worms or fissure in the rectum, uterine disorders, gonorrhœa, phimosis, or ulcers, calculi and acid urine within the bladder, act in the same way. Paresis of controlling encephalic fibres has then the same consequence as excitement of afferent spinal fibres; in both cases the detrusor urinæ, by excitement or by permission, overcomes the sphincter.† Again, if we have regard only to the local efferent nerves, we see that exhaustion of the spinal centre has the same result of instability as exhaustion of its encephalic ally and as stimulation of the afferent nerves. Onanism acts in this way, both in causing frequent daily micturition—*castus raro mingit*—and especially in allowing spasmodic emission of either urine or semen, when during sleep the tension of the weakened spinal centre is no longer reinforced by an active encephalon.‡ In paraplegia we often have both these causes at work. Communication may be broken between the encephalon and the lower cord in the first place, and the spinal centre may be weakened likewise, allowing of priapism, seminal and urinal emissions, and other evidences of instability, in which cases the incontinence is often nocturnal at the outset; or it may be palsied, allowing of the complete incontinence of flaccidity, both diurnal and nocturnal. It would seem that exhaustion of neighbouring centres in the cord may spread to the genito-urinary ganglia;§ for many men who, like Alpine climbers, exercise the legs strongly, but occasionally, are liable to irritability of the bladder, and to nocturnal emission of semen, during the first days of their holiday. When enuresis is due to the removal in sleep of part of the inhibitory action of the encephalon, we have by day what is called continence; but this continence is often imperfect, the patient being obliged to micturate frequently, and to answer the call quickly. Many healthy persons of nervous temperament, many women especially, have this degree of incontinence at night, although their resisting power by day may not be insufficient.

This irritability of the detrusor is generally or always accompanied with ineffectual spasm of the sphincter also; in the female bladder this is readily demonstrated, and in young boys who suffer in the same way the penis is usually half erect during sleep.|| But in that form of incontinence which is seen in continuous dribbling, we have to deal with the opposite state in both sets of muscular fibres; for, although the urine of such persons is ever escaping from them, yet, on the other hand, they are incapable of projecting it far on a voluntary effort. Dribbling differs from spasmodic incontinence in this—that it occurs as well by day as by night, that the subjects of it are never able to project a strong stream, and that, unlike spasmodic enuresis, it frequently takes place on a sudden exertion like coughing. Many women who have borne children, and whose parts are relaxed, become unable to hold their water when coughing. These cases, and the similar debility we often

see in young persons, as well as in those of advanced life, are susceptible of a good deal of relief from the use of strychnine and also of ergot of rye, sometimes one drug and sometimes the other having the advantage.

The treatment of spasmodic or nocturnal enuresis is very different, and resembles closely that needed for seminal incontinence. Everything calculated to stimulate the afferent nerves of the sacral plexus must be avoided. The patient must avoid heating the nerves by taking care to lie on the side, and by the use of a mattress with light bed-coverings. It is right also, for the same reason, to prevent fulness of the bladder at night by abstinence from evening drinks, and by natural evacuations. In persons of this irritable or spasmodic habit, every eccentric cause of irritation to the afferent nerves—such as constipation, worms, uterine disorder, acid urine, and the like—must be removed; and, on the other hand, the tone of the parts must be restored by the systematic use of cold douches to the lower half of the spine. In bad cases a very small opiate or belladonna suppository acts like a charm in soothing the irritability. Especially must belladonna be given also as a medicine during the day or as a pill at bedtime. Children, as Dr. Fuller has shown, will bear belladonna in very large doses; and a little child suffering from nocturnal incontinence was pointed out to you on the last out-patient day whose malady remained untouched until we reached a dose of two grains of the extract at bedtime, when she found relief. Whether the belladonna be given at bedtime or as a daily medicine seems of little importance. Bromide of potassium, which seemed *à priori* a likely remedy, is quite useless. If you can add gentle local faradism to the cold douches, you will find great benefit arise from it; such, at least, was my own experience in two bad cases.

The general treatment needed in these cases is that needed in all persons suffering from instability of the nervous tissues; and as we sometimes find nocturnal incontinence in delicate, nervous children, often, moreover, associated with herpetic eruptions, seminal discharges, epilepsy, weakness of mind and temper either in themselves or in their near relatives, so we must never forget, by the use of our best “nervine tonic,” cod-liver oil, of mild preparations of arsenic and of steel, and also of general hygienic measures, to restore that tone in which by nature they are deficient. In thus estimating your duty as physicians, gentlemen, I must, however, remind you that incontinence of urine very often depends on no constitutional habit, but on local disorders. In these cases the nocturnal incontinence is generally associated with more or less distressing diurnal irritation also. My surgical colleagues, and my friend Mr. Teale in particular, have, I believe, drawn your attention to the treatment required under these painful circumstances.

P.S.—Since the above lecture was delivered a very interesting and important note has appeared in THE LANCET by Dr. Thomson, of Peterborough. He was led empirically to recommend chloral as a remedy for nocturnal incontinence of urine, and apparently with great success. We have ample opportunities amongst our out-patients of trying this remedy; and if it answers in our hands as it has done with Dr. Thomson it will supersede belladonna.

Leeds, Nov. 17th, 1870.

## BRIEF NOTES ON SOME OF THE MEDICAL AND OTHER INSTITUTIONS OF LISBON, AND ON LEPROSY.

By THOMAS B. PEACOCK, M.D.

DURING the last autumn I paid a short visit to Portugal, and I propose in this paper very briefly to describe some of the public medical institutions of Lisbon, and to offer a few remarks on the cases of leprosy which I saw there.

The civil medical hospital is the San José. This is an irregular two-storied building, placed on the top of one of the seven hills upon which Lisbon is said to be built. It is situated in the older part of the city, which suffered comparatively little from the earthquake. It was formerly a convent of the Jesuits, and was appropriated to its present

\* Ita, ut aiunt, solent impudici quidam invitam venerem vergis sollicitare.

† I should not of course advance these novel views unless I thought I had evidence in favour of them; but their proof did not form part of the present lecture.

‡ In such cases it is well known that, even in waking hours, a very slight additional irritation to the afferent (pudic) nerves will upset central tension, and cause seminal discharge.

§ Dr. Handfield Jones, in the last number of THE LANCET, has suggested this weakening of a nerve-centre by exhaustion of its neighbour. Careful clinical watching of such cases would be a kind of experimental physiology.

|| Herein I must differ slightly from the recently published views of Dr. Buryley Yeo (THE LANCET, Oct. 22nd, 1870).