

always awakened during the first half of her sleep and caused to urinate, but who, nevertheless, urinated in her bed during the remaining half of her slumber. As she explained it, she urinated during the second part of her sleep because it was then that she slept most heavily.

In many urinary incontinent, the vesicle contraction is so prompt and energetic that the urine emerges almost before they have been conscious of the desire, and without their having been able to arrest its flow. So, during the day, if by idleness or distraction, these children do not attend to the first sensation of a desire to urinate, they soon become suddenly pressed by the necessity, and often let the urine flow into their clothing. The equilibrium is broken, the expulsive force of the bladder having been augmented, whilst the retaining force of the urethra had remained the same, or had become weakened. This is shown clearly in the fact that if you make an incontinent child urinate in your presence at the time they usually feel the desire, you will see the urine thrown out by a violent impulsion. Again, if we introduce a catheter into the bladder, and gently throw in an injection, we find that it returns with force through the instrument, though we had no trouble whatever in introducing the instrument itself; and this shows how vesical power, when conjoined to sphincterian weakness, upsets the equilibrium.

In certain cases of incontinence of urine, sleep is normal, but the impression of the desire to urinate appears so weak that it is powerless to cause the contraction of the sphincters. The same consequences follow, the child urinates without awaking. In this kind of incontinence the urine sometimes flows involuntarily during the day, but without the jet being thrown out more energetically than in the normal state.

Whatever may be the result of too forcible vesical contractions, of powerlessness in the neck, of too profound sleep, or of weakness of sensational impression, these are not the only occasional causes of incontinence. A too dense condition of the urine will produce the same effect because its acidity excites vesical contractility and makes the desire to urinate livelier and, therefore, more pressing. This kind of urine is easily recognized without scientific examination. Ordinarily limpid, though sometimes nebulous, we find that at the time of its emission it thickens in proportion to its lowness of temperature. When cooled it leaves thick deposits which are often taken for pus but are chiefly urates. The urine becomes clear again when subjected to heat.

Some of the vermicular inhabitants of the rectum, which emerge at night, and invest the genito-urinary organs, provoke an irritation which gives rise to a desire to urinate by contracting the bladder, thus acting in the same way as acid urine.

A contracted prepuce or meatus is often accompanied by incontinence of urine. But in these cases the mechanism of the trouble is differ-

ent. It is generally an incontinence caused by engorgement. The bladder is full, and the little patient retains his urine on account of the pain which micturition causes him, so that the urine escapes from time to time in spite of his efforts to retain it. If you introduce the catheter after he has urinated you will find that a considerable amount of urine has been left in the bladder.

Inflammation of the deeper parts of the urethra produces the same results, whilst inflammation of the bladder does not permit any accumulation of urine.

All of these causes may also have the effect of giving rise to dreams during the course of which the child urinates in the belief that he is doing so in his vessel. I say nothing about children who urinate in bed from pure laziness; that kind of incontinence is not a malady.

Has the general condition an influence upon the incontinence of urine? The question is much discussed. To me it is evident that delicate children are more subject to the trouble than others. But an undeniable cause lies in heredity. The children of nervous parents, and especially those suffering from nervous diseases, are often predisposed to incontinence. This is not surprising in a malady which, whatever idea we may form of its mechanism, can be little else than a neurosis of sensibility or motility.

Nocturnal incontinence of urine generally ceases with puberty, but we not unfrequently meet with cases of persons of 20 to 25 who are troubled with it more or less constantly.

The principal medicaments used in this affection are: Belladonna, when the trouble results from an exaggerated contraction of the bladder; and nuxvomica, when it proceeds from weakness of the peri-urethral muscles.

The rules for the giving of belladonna have recently been laid down by Trousseau. He commenced by giving a pill of 1 centigramme of the extract at bedtime; this was continued for several days. Then, without stopping on account either of the cessation or persistence of the malady, he augmented the doses to 6, 7, 8, 9 and 10, and in some cases to 15 or 20 centigrammes. If there was no intolerance he pursued the treatment for a month or two, or for a considerable time after the cure seemed to be effected. Where the pills are not well borne a syrup of equal parts of syrup or belladonna and syrup of tolu is used.

Where belladonna causes congestion of the face and eyes, we may use bromide of potassium in doses of 15 centigrammes for a child of 4, and 50 for one of 12 years. Very much larger doses may be given if they do not disagree. A good way to give it to children is in soup.

Nuxvomica is usually given to children in syrup, containing 5 centigrammes of sulphate of strychnia and 100 grammes of simple syrup. The dose is a dessertspoonful (containing 5 milligrammes of the drug) for children of 5 to 10 years, and it is given morning and night for two days. If