Cure of giggle micturition

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SUMMARY Two boys, aged 11 and 13, had involuntary, unstoppable, and complete emptying of the bladder on laughter. In one the wetting occurred only when standing and in company, but in the other it occurred regardless of posture or company. One boy had a strong family history of wetting including a grandmother who had had giggle micturition as a teenager. The symptoms had been present for between 1 and 2 years. However, unlike cases previously reported, each boy was cured—one within 6 weeks and the other within 6 months. It is not clear how much of the success was due to the general sympathetic and confidence-building measures used, advice about posture, or to the drug propantheline.

Excessive laughter may cause wetting. Generally it is slight and causes only dampness of the clothing. In contrast 'giggle micturition' is characterised by sudden, involuntary, and complete emptying of the bladder over which the individual has no control.¹ It is uncommon, its aetiology is poorly understood, and there seems to be no effective treatment.² The lack of information about the condition has prompted us to draw attention to this socially embarrassing phenomenon, as some features of these 2 children may help to explain the mechanisms of micturition induced by giggling. Unlike previous reports¹⁻² treatment was successful.

Case 1

This 13½-year-old boy was referred to us because of day-time wetting. There had been a number of problems previously.

Shortly after birth he had developed atopic eczema and at age 4 years he started to have mild asthmatic attacks. At age 11½ years he was circumcised because of phimosis. At age 12 he fell from a tree while collecting conkers; he sustained a head injury and a fractured mandible requiring treatment in hospital for 4 days. After the fall the asthmatic attacks became more frequent and 2 years later he was admitted to hospital with an attack sufficiently severe to require corticosteroid treatment. On none of these three hospital admissions was the complaint of giggle micturition

mentioned, although the symptoms must have been present at the time of the last two admissions.

He was referred because of day-time wetting which had been present for 2 years (since age 11½). The onset had been sudden. At a disco with friends a joke was cracked which made him laugh and quite unexpectedly he voided urine. He made an excuse to his friends and left. He attributed the event to the circumcision which had been done 4 or 5 weeks earlier. During the next 2 years he had many similar episodes as often as 4 or 5 times a week. These generally occurred when he was out with friends and they became so frequent that he was reluctant to go out with them. He did not wet himself every time he laughed, only if he laughed vigorously. He was aware of it happening, but could not stop his bladder from emptying completely. The wetting never took place at home even when watching a comedy show on television. Posture was important. If he laughed sitting at his desk at school he remained dry; he wet himself only if he laughed vigorously while standing. He voided urine every 2 hours during the day but was not wet unless he laughed. Coughing or strenuous physical activities such as rugby or trampolining did not cause wetting, although once, while on a trampoline, he started to laugh and completely emptied his bladder. He was dry at night. Bowel control was normal; there was no soiling.

There was no family history of wetting. He was an intelligent boy, popular with his school friends. No abnormalities were found on physical examination and, in particular, there were no neurological abnormalities: investigations—including an intravenous urogram, micturating cystourethrogram, and electroencephalogram—were normal.

Management. Because of the apparent relationship to posture he was told to sit down if he started to laugh. In addition he was advised to take the parasympatholytic drug propantheline, 15 mg, an hour before he went out with his friends, and was assured the drug would cure him. He did not wet himself again provided he took the tablet. One evening he forgot to take the tablet before going carol singing with his friends. When standing singing outside a neighbour's door a remark made him laugh and he wet himself. This happened twice during the same

evening. But a few days later, after having taken the drug he laughed 'hysterically' while sledging and did not wet himself. After 6 months a placebo tablet identical in appearance with propantheline but without the active ingredient was substituted. He did not relapse and voluntarily stopped taking the tablets after 3 months. He has since remained dry.

Case 2

An 11-year-old boy presented with a 1-year history of day-time wetting which occurred only when he laughed. It did not occur every time he laughed, nor did it seem to be associated with a specific variety of laughter (such as giggling or hearty laughter); it could happen whether he was alone or in company, whether inside or outside, whether at school, at play, or watching the television. There was no relationship to posture. It occurred 4 or 5 times a week. Sometimes the amount of wetting caused no more than sodden pants. But at other times a puddle was left on the seat. The problem was causing great unhappiness and stopped him from joining in many activities. He was being taunted at school as being smelly.

His general health was good. The pattern of micturition by day was normal (apart from the laughter-induced wetting) and there was no other stress incontinence. He did not wet the bed or need to get up and pass urine during the night. His bowels were normal; there was no soiling.

He had had a healthy early life with no serious illnesses, but had been slow to become dry. Although out of nappies at age 3 he had tended to have damp pants until age 7. He had been slow to become dry at night and had occasional wet beds until age 8; thereafter he had been reliably dry at night.

On examination he was a sad but healthy looking prepubertal boy. There were no abnormal findings and the urine was normal on chemical testing, microscopical examination, and culture. A micturating cystogram showed mild (grade 1) vesico-ureteric reflux on the left. The bladder was of normal shape, emptying completely, with a normal urethra. The sacrum was intact and there was nothing to suggest a neurogenic bladder or any urethral abnormality.

There was a strong family history of enuresis. Although his elder sister had become dry early, his twin sister had wet the bed up to age 6. His father had had day and night wetting as a child and his paternal grandmother and great grandmother had had day and night wetting as children. The grandmother had had particularly awkward problems, wetting until age 20, the wetting being associated with laughter as a teenager.

Our patient was a quiet boy of moderate ability at school. His mother had a forceful personality and was quick to point out that all the wetting problems were on the father's side of the family.

Management. It seemed clear that this boy had been unlucky to inherit a familial tendency to wet. Nevertheless since he had had periods of reliable dryness there could be no doubt that he could be dry again. These two points were explained to him and his mother at separate interviews. The boy in particular felt upset and inadequate due to the fact that no doctor seemed to have met the problem before. We told him that we had met it before, could cure it, and were confident that he could become dry within 3 months. He was asked to keep a careful record of the circumstances of each episode of wetting and of the reason for the laughter which induced it. He was told that a medicine would be prescribed at the next visit according to what his record chart showed and that the medicine would help him to become dry. However, when he returned 3 weeks' later the record showed that in the first week he had been completely dry, in the second week he had had merely 3 days on which slight staining of the pants had occurred (the circumstances of which were uncertain because the wetting was so slight), and in the third week he had been completely dry. At interview he agreed that he was almost cured. During the next 3 weeks no more wetting took place and at the end of that time he was confident that he had become dry. He remained dry.

Discussion

Giggle-induced micturition is characterised by complete emptying of the bladder during laughter and the lack of voluntary control over the act of micturition once it has started. This is in contrast to the dampness of the pants which may occur with excessive laughter and other forms of stress incontinence.

It has been suggested that it takes place only with certain types of laughter—for example, giggle or suppressed laughter on the one hand, or excited wild laughter on the other. The first boy (Case 1) wet only when excited and with friends, and the second (Case 2) wet with any type of laughter regardless of the company.

It is a sad problem. One boy was depressed because of being taunted, the other, being fearful of wetting, stopped going out with his friends; yet embarrassment had prevented him from consulting a doctor about it.

The failure to report the symptom and lack of awareness may account for its apparent rarity.² It

will be discovered only if a specific inquiry is made whenever a child is brought with a story of day-time wetting.

The cause of giggle micturition is not known but has been discussed in detail by MacKeith.¹ One of our patients blamed the circumcision operation. If this had a role it was probably the emotional stress induced either by admittance to hospital or the surgery since studies have shown that enuresis may be precipitated by emotional disturbances.³ No other precipitating factor was discovered.

The family history of Case 2 is interesting. Among several members who had day or night wetting his grandmother stood out as being particularly severely affected and it seems likely that she had giggle micturition at puberty. The successful response to routine sympathetic management suggests that whatever started off the wetting in the first place was helped most by reassurance. He was a boy who by family inheritance had an unstable bladder and had been slow to get dry. It is interesting to speculate how the giggle- or laughter-induced micturition began. Perhaps there was a moment when there was an unusual combination of extreme bladder fullness, excitement, and particularly violent laughter which caused him to wet. Thereafter he was so aware of the association between laughter and wetting that it became a regular occurrence; and that became reinforced with the negative approach of forceful parents. Once he believed that he could be cured the wetting stopped.

Previous reports have provided little help with the management of children with giggle micturition and have suggested that the symptom is likely to continue into adult life.²

Our 2 patients became reliably dry within 6 months of referral. They were helped by a variety of manoeuvres. It is likely that most help came from the sympathetic and confident approach of the staff of the enuresis clinic, together with the general measures which help children with any type of wetting problem.⁴ For Case 2 these measures alone were sufficient to produce cure. For Case 1 advice about posture was helpful. Sitting, by exerting pressure on the perineum, closes the urethra and

prevents urinary incontinence.⁵ Our patient remained dry provided he laughed while sitting. Other patients with giggle micturition may be helped if advised to sit down when they start to laugh. Propantheline was also helpful, presumably because of its parasympatholytic effects; when he forgot to take it before carol singing he relapsed. He remained dry only when he took the drug. He had been dry for 6 months and felt confident that he was cured when the placebo drug was substituted, and so he did not relapse. Further trials of propantheline treatment and the effects of posture on patients with giggle micturition are required.

Children with giggle micturition will be helped only if the clinical picture is recognised and a specific inquiry is made about the presence of giggle micturition when a child is brought to a doctor because of day-time wetting. A sympathetic discussion of the problem, the use of parasympatholytic drugs, and advice about posture may help children with this embarrassing complaint.

We thank Mrs Wendy Pearson for help with the manuscript. The placebo tablet was provided by Searle Laboratories.

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Received 25 March 1980