Psychogenic Urinary Retention in Children: A Case Report

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Psychogenic urinary retention occurs relatively infrequently in children and is less common than in adults. The influence of psychogenic factors on voiding generally results in an irritative syndrome, but rarely in urinary retention. A definitive diagnosis is established by excluding other pathological conditions. Evaluation includes urine culture, renal echography, spine magnetic resonance imaging, voiding cystourethrography, intravenous pyelography, and uroflowmetry. Here, we report on a 6-year-old girl with a 1-month history of voiding difficulty. Urology studies, including urine culture, revealed Escherichia coli, which was not present in preadmission urine cultures. Renal ultrasound and radiological images showed no gross abnormalities or vesicoureteral reflux, but uroflowmetry showed a low flow rate with residual urine. The results of imaging studies and pediatric psychiatric consultation led to a diagnosis of psychogenic urinary retention combined with urinary tract infection. Urinary rehabilitation included intermittent catheterization, bladder training, and supportive psychotherapy, after which the patient recovered and was discharged.

1. Introduction

Psychogenic urinary retention should be suspected in patients with acute urinary retention (AUR) with no organic explanation. It is well known in adults, but has rarely been described in children.¹ AUR in children can be associated with constipation and infrequent voiding.²,³ Urine retention is defined as the lack of volitional bladder emptying for more than 12 hours, with a urine volume greater than that expected for age [(age in years +2) × 30 mL] or a palpably distended bladder. Urodynamic studies do not provide significant additional diagnostic value, and noninvasive diagnostic methods (i.e., clinical examination, ultrasound, and uroflowmetry) should be used initially.⁴ Treatment usually consists of a combination of intermittent catheterization, bladder training, and supportive psychotherapy.⁵

2. Case Report

A 6-year-old girl presented suffering from voiding difficulties. She had required her father to compress...
her abdomen to help her urinate every morning for about 1 month before admission. A distended urinary bladder had frequently been identified on physical examination, and urinary catheterization was performed several times in private clinics to relieve bladder distention. The patient had urge syndrome, but no diurnal or nocturnal enuresis. There were no signs of fever, abdominal pain, or flank pain, but constipation was present. She denied any history of urinary tract infection (UTI) or medication intake.

The patient appeared relaxed, alert and well-oriented. A physical examination was unremarkable, except for a palpably distended urinary bladder. The results of laboratory tests, including complete blood count, urinalysis, liver function tests, renal function tests, and blood electrolyte measurements were all within normal limits. More than $10^5$/mL colonies of *Escherichia coli* were detected in the urine culture, and intravenous cefazolin was therefore administered, based on the results of antimicrobial sensitivity testing. Renal echography showed negative findings for both kidneys. Other imaging studies, including spine magnetic resonance imaging, voiding cystourethrogram, and intravenous pyelography showed no reflux, stones, or masses in the genitourinary system.

Because of persistent difficulties in urination, consultations were made with a urologist and psychiatrist. A low flow rate with 59 mL residual urine was detected on uroflowmetry. A diagnostic psychiatric interview using the Wechsler Preschool and Primary Scale of Intelligence assessment indicated a borderline IQ, a lower than average speaking ability, and mild mental retardation. No emotional problems were identified, but the patient had deficient social stimulation. These evaluations confirmed psychogenic urinary retention with UTI.

The patient completed a 7-day course of antibiotic treatment for UTI. Urinary rehabilitation and supportive psychotherapy were also given. She was discharged after 2 weeks of hospitalization. There was no recurrence of symptoms on follow-up after 6 months.

### 3. Discussion

Acute urinary retention is an uncommon diagnosis in childhood. It is associated with a variety of causes, including neurologic disorders, severe psychogenic voiding dysfunction, UTI, constipation, adverse effects of medications, local inflammation, and locally invading neoplasms. It can also be idiopathic. Urinary retention is described as the inability to void voluntarily, despite adequate urine volume in the bladder. It is a common complaint in adults. In contrast, children are more likely to have voluntary retention of urine because of urethral irritation or dysuria. Causes of voiding dysfunction that induce AUR include psychological causes such as depression and hysteria, numerous inhibitory factors of educational origin, and sexual abuse.

Psychogenic urinary retention in childhood can appear during the period when complete control of micturition is being developed. Late recognition of this condition worsens its prognosis, because high pressure and infection in the urinary tract can lead to end-stage renal failure. Voiding dysfunction thus typically presents after toilet training, and may originate from behavioral issues that arise around this time of child development.

The clinical symptoms may vary from mild incontinence to severe disorders, with endpoints of irreversible bladder dysfunction with vesicoureteral reflux, UTI, and nephropathy. Although functional voiding disorder and UTI are common in childhood, they are not usually accompanied by upper urinary tract deterioration. Children with urge incontinence have a significantly higher rate of previous UTI than children with voiding postponement. They are characterized by a variety of behavioral symptoms, such as withdrawal, aggression, delinquent behavior, and attention problems. In contrast, children with voiding postponement have a more abnormal uroflow curve rate and a wide variety of clinically relevant behavioral symptoms, usually with attention and delinquency problems.

Functional urinary incontinence in children may be caused by disturbances during the filling phase or the voiding phase, or a combination of both. Girls present with symptoms of detrusor overactivity more often than boys, although other symptoms, such as UTI or constipation, sometimes prevail. Moreover, girls with recurrent UTI have host-mediated predisposing behavioral and functional abnormalities, including infrequent voiding, poor fluid intake, functional stool retention, and voiding dysfunction. However, UTI is not necessarily related to poor genital hygiene or toilet habits. Diagnosis is based on medical and voiding histories, physical examination, bladder diaries, and uroflowmetry.

In conclusion, psychogenic voiding dysfunction is an important differential diagnosis when evaluating patients with asymptomatic bacteriuria and urinary retention. The influence of psychogenic factors on voiding generally results in irritation syndrome, and only rarely in urinary retention. Voiding dysfunction is typically present after toilet training and may originate from behavioral issues. Urodynamic studies are usually reserved for patients with dysfunctional voiding with UTI. Management usually involves a combination of intermittent catheterization, bladder training, psychotherapy, and anticholinergic treatment.
References