

Voiding Dysfunction in Children With Chronic Functional Constipation

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Urination and defecation are complex functions and often misunderstood. They involve the coordination of completely different muscle systems. Dysfunctional elimination syndrome (DES) refers to patients who have problems with both bladder and bowel control. The pattern of abnormal voiding seen in children can be quite variable. Some children hold their urine for extensive periods, overstretching

their bladders and then urinate with perfectly normal coordination. Others have difficulty relaxing the sphincter during urination and void against the sphincter, straining the bladder extensively in the process. Finally, the outcome is inefficient voiding. All of these abnormal voiding patterns may also be associated with chronic constipation, which collectively is referred to as DES.

Urinary tract infection occurs commonly with voiding dysfunction. Under ordinary circumstances the normal bladder is remarkably resistant to infection because of its ability to wash out and elimination of bacteria. If, however, urine is held too long or is incompletely discharged, bacteria may increase and may cause urinary tract infection. Constipation is one of the most common associated problems seen in children with various bladder problems, including voiding dysfunction, day and nighttime wetting and urinary tract infections. With severe constipation, the bowel may press on the bladder and can interfere with normal bladder function. There is also an association between the muscles that control both urine and bowel function. Active bowel dysfunction is seen in half of the pediatric patients with a lower urinary tract condition.

Not only constipation but encopresis is more common in patients with voiding dysfunction and encopresis is significantly increased in those with detrusor overactivity which presented with severe urgency.¹ Bowel symptoms are also significantly more prevalent in cases with monosymptomatic nocturnal enuresis associated with daytime incontinence.² A clinical diagnosis of constipation may not identify all patients and some suffer from occult constipation. Abdominal radiography, plain radiography of the kidneys, ureters and bladder is often used to assess constipation. There are some criteria which may be applied to objectively assess constipation status in children with urinary symptoms without a history of constipation.³ There is also some association between constipation and the results of uroflowmetry with post-void residual urine tests in healthy children.⁴ Lower urinary tract dysfunction symptoms are detected in 21.8% of healthy school-aged children. Symptoms are most frequent in girls, children aged 6 to 8 years, and children attending the school with the poorest socioeconomic status. Intestinal constipation is the most prevalent finding (30.7%). The most common urinary symptoms in healthy school-aged children are diurnal urinary incontinence (30.7%), holding maneuvers (19.1%), and urinary urgency (13.7%). Stress factors are associated in 28.4% of children.⁵ Therefore patients with bladder and bowel dysfunction may have associated psychosocial difficulties. They would potentially benefit from a multidisciplinary treatment approach involving

urology, gastroenterology and psychology.⁶

In this issue of the *Iranian Journal of Kidney Diseases*, Dehghani and colleagues⁷ reported the frequency of urinary tract infection and enuresis in pediatric patients with chronic constipation. They evaluated 120 children with chronic functional constipation. Detailed past and present history of urinary tract infection and enuresis were gathered and urinalysis, urine culture and abdominal ultrasonography were performed for study group. They detected dysuria, urinary frequency and dribbling as the most common urinary symptoms in their patients. In this study the frequency of nocturnal enuresis and urinary tract infection was 22.5% and 8.3%, respectively. The results of this study show that the urinary symptoms especially nocturnal enuresis is found in a significant number of children who had chronic functional constipation, and the frequency of urinary tract infection is higher than healthy children in this group. Fortunately the urinary tract infection is not so common in this study and all children show normal urinary tract ultrasonography. Therefore voiding dysfunction and enuresis should be questioned in children with chronic constipation and management of constipation is recommended in all patients with dysfunctional elimination syndrome. Sometimes, correcting the chronic constipation alone results in improvement in urinary function of bladder and a reduction in the number of urinary tract infections. Combination of standard and biofeedback bladder control training improve dysfunctional elimination syndrome and decreased urinary tract infection.⁸

In conclusion voiding dysfunction is common in children with chronic functional constipation. Patients with dysfunctional elimination syndrome would potentially benefit from a multidisciplinary treatment approach involving urology, gastroenterology, and psychology.

CONFLICT OF INTEREST

None declared.

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