

## Pollakiuria Due to Constipation in a Girl: LUTS or PEDUF?

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### Letter to the Editor

Dear Editor,

The bladder and rectum are originated from common embryological origin in the cloaca and are innervated by sacral 2-4 parasympathetic nerves. Similarly, the external anal and urethral sphincters are innervated by the pudendal nerve originating from the sacral 2-4 Onuf nuclei. It has been shown that there is an autonomic reflex interaction between the lower parts of the bladder and the gastrointestinal tract.<sup>1,2</sup> As a result of bladder stimulation with constipation, the problem of urinating frequently and in small amounts occurs. It is defined as the lower urinary tract symptoms (LUTS, lower urinary tract symptoms) or unusual daytime urinary frequency (PEDUF, extraordinary daytime urinary frequency).<sup>1,3</sup> In this article, we would like to emphasize the importance of combined evaluation of children with voiding disorder.

A five-year-old girl presented with complaints of constipation, loss of appetite, and frequent urination for 2 months. While he was in the examination room,

it was observed that he urinated every 5 minutes and urinated in a very small amount. It was learned from her history that her mother had type 2 diabetes and Hashimoto's thyroiditis, and her grandmother had type 1 diabetes. He earned toilet training at night at the age of 3. He had severe constipation (Bristol categories 1). Her physical examination was unremarkable with height 108.5 cm (73 p), weight 21 kg (91 p) and body mass index 17.84. Basics urine and metabolic panels were normal. A kidney urinary bladder ultrasound was also normal. She was diagnosed as lower urinary tract symptoms associated with constipation and given lactulose (Duphalac suspension) 5 ml twice a day. Two weeks later, her bladder symptoms gradually decreased and finally disappeared.

Voiding dysfunction (VD) is a common problem in children with an observed rate of 9.5%-19.2% in our country.<sup>4,5</sup> VD may accompany with constipation.<sup>6</sup>



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A series of pathogenesis has been suggested for the formation of VD symptoms such as pollakiuria in children with constipation.<sup>1</sup> The first is that the rectum and bladder are affected by the same neuropathology. Secondly, it is explained that a problem in a system affects the neighboring organ, that is, the accumulation of stool causes urine from the bladder. Third, prolonged constipation and changes in pelvic floor muscles can cause pelvic organ prolapse and urinary incontinence. In childhood, the Rome 3 criteria are used for constipation over the age of four. Accordingly, 2 or fewer stools per week, the presence of a large fecal mass in the rectum, or the stool diameter is large enough to block the toilet can be counted.<sup>7</sup> Our case's stool every 3-4 days is consistent with the diagnosis of constipation. Frequent urination, which is not excessive, draws attention in patients. Differential diagnoses should be made with polydipsia, diabetes, polyuria, urinary tract infection, nephrogenic diabetes insipidus, and viral syndromes.<sup>1</sup> Those were ruled out in our patient and finally, a diagnosis of LUTS or PEDUF was made based on anamnesis, physical examination, and laboratory findings. Apart from constipation, PEDUF can also be observed in patients with a tic disorder, obsessive-compulsive disorder, and Tourette's syndrome.<sup>3</sup> These problems should also be taken into account in the treatment of cases.

Lactulose is recommended for the treatment of constipation as the first line of treatment.<sup>8</sup> It is resistant to the enzyme lactulose disaccharidase, which is a disaccharide and is broken down into lactic, acetic, and formic acid, which stimulates osmotic and intestinal movements by saccharolytic bacteria in the large intestine. It was observed that the complaints of pollakiuria started to decrease with lactulose treatment in our patient. We think that pediatricians should consider VD as a common disease of the bowel and bladder and plan treatment strategy based on this knowledge.

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