



ORIGINAL ARTICLE

Clinical course of a cohort of children with non-neurogenic daytime urinary incontinence symptoms followed at a tertiary center^{☆,☆☆}



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KEYWORDS

Diagnosis;
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Pediatrics;
Urinary tract;
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Child

Abstract

Objective: To characterize a cohort of children with non-neurogenic daytime urinary incontinence followed-up in a tertiary center.

Methods: Retrospective analysis of 50 medical records of children who had attained bladder control or minimum age of 5 years, using a structured protocol that included lower urinary tract dysfunction symptoms, comorbidities, associated manifestations, physical examination, voiding diary, complementary tests, therapeutic options, and clinical outcome, in accordance with the 2006 and 2014 International Children's Continence Society standardizations.

Results: Female patients represented 86.0% of this sample. Mean age was 7.9 years and mean follow-up was 4.7 years. Urgency (56.0%), urgency incontinence (56.0%), urinary retention (8.0%), nocturnal enuresis (70.0%), urinary tract infections (62.0%), constipation (62.0%), and fecal incontinence (16.0%) were the most prevalent symptoms and comorbidities. Ultrasound examinations showed alterations in 53.0% of the cases; the urodynamic study showed alterations in 94.7%. At the last follow-up, 32.0% of patients persisted with urinary incontinence. When assessing the diagnostic methods, 85% concordance was observed between the predictive diagnosis of overactive bladder attained through medical history plus non-invasive exams and the diagnosis of detrusor overactivity achieved through the invasive urodynamic study.

Conclusions: This subgroup of patients with clinical characteristics of an overactive bladder, with no history of urinary tract infection, and normal urinary tract ultrasound and uroflowmetry, could start treatment without invasive studies even at a tertiary center. Approximately one-third of the patients treated at the tertiary level remained refractory to treatment.

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^{☆☆} Study conducted at the Pediatric Nephrology Outpatient Clinic, Instituto da Criança, Hospital das Clínicas, Faculdade de Medicina, Universidade de São Paulo (USP), São Paulo, SP, Brazil.

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PALAVRAS-CHAVE

Diagnóstico;
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urinária;
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Sistema urinário;
Qualidade de vida;
Criança

Curso clínico de uma coorte de crianças com incontinência urinária diurna não neurogênica acompanhada em serviço terciário

Resumo

Objetivo: Caracterizar uma coorte de crianças com incontinência urinária diurna não neurogênica acompanhada em serviço terciário.

Métodos: Análise retrospectiva de 50 prontuários de crianças com controle miccional ou idade mínima de cinco anos, por meio de protocolo estruturado, que incluiu sintomas de disfunção do trato urinário inferior, comorbidades, manifestações associadas, exame clínico, diário miccional, exames subsidiários, opções terapêuticas e evolução clínica, conforme normatizações da *International Children's Continence Society*, de 2006 e 2014.

Resultados: Eram do sexo feminino 86% dos pacientes. A idade média foi de 7,9 anos e o seguimento médio de 4,7 anos. Urgência (56,0%), urge-incontinência (56,0%), retenção urinária (8,0%), enurese noturna (70,0%), infecção do trato urinário (62,0%), constipação (62,0%) e perda fecal (16,0%) foram os principais sintomas e comorbidades. Exames de ultrassom apresentaram alterações em 53,0% dos casos, e o estudo urodinâmico, em 94,7%. Na última consulta, 32,0% dos pacientes ainda apresentavam incontinência urinária. Ao analisar os métodos diagnósticos, observou-se concordância de 85,0% entre o diagnóstico preditivo de bexiga hiperativa obtido pela história clínica mais exames não invasivos e o diagnóstico de hiperatividade detrusora obtido pelo estudo urodinâmico

Conclusão: O subgrupo de pacientes com quadro clínico característico de bexiga hiperativa, sem antecedentes de infecção urinária, ultrassom de vias urinárias e urofluxometria normal poderia iniciar tratamento sem a necessidade de estudos invasivos, inclusive em serviço terciário. Aproximadamente um terço dos pacientes com incontinência urinária atendidos em serviços terciários permanecem refratários ao tratamento.

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Introduction

Functional urinary incontinence (UI) is defined as involuntary loss of urine in a socially inappropriate place or time for a child with bladder control, or aged ≥ 5 years, without neurological damage and with adequate neurological development for age.^{1,2}

Incontinence can be characterized as continuous or intermittent, and diurnal or nocturnal. Continuous UI is more associated with congenital malformations, such as ectopic ureter, while the intermittent type is usually a manifestation of a heterogeneous group of lower urinary tract dysfunctions (LUTDs).³ It is called "daytime urinary incontinence" when it occurs when the child is awake, and "nocturnal enuresis" (NE) when it occurs exclusively during sleep. Patients with intermittent UI when awake as well as during sleep are diagnosed as having daytime UI and NE.^{2,3}

In addition to the social and hygiene impact on the child, voiding dysfunctions significantly affect the quality of life of patients and their families, and can persist beyond childhood.⁴ LUTD is associated with increased risk of urinary tract infection, delay in vesicoureteral reflux resolution, and loss of renal function.^{5,6}

Directed and detailed anamnesis, the use of a voiding diary, and careful physical examination are essential for the diagnosis, which, in turn, is critical to define the appropriate treatment. The 4-h urine test for infants, uroflowmetry, and ultrasonography (US) are the non-invasive tests that provide relevant diagnostic tools.^{7,8} However, these data and exams, when performed with inadequate methodology, often result

in inconclusive data, leading to the unnecessary indication of invasive urodynamic study for diagnostic clarification, increasing the suffering of the patient and family, as well as the diagnosis time and costs.⁹

In Brazil, few studies have analyzed the prevalence of daytime UI in children, let alone the diagnostic investigation and treatment of pediatric patients with no evident structural alterations and neurologic abnormalities with daytime UI followed in children's tertiary care centers.^{10,11}

The objective of this study was to characterize a cohort of children with daytime UI without neurological damage followed in a tertiary center, and to verify the concordance between the diagnosis of overactive bladder and its urodynamic manifestation, *i.e.*, detrusor overactivity.

Methods**Study design**

A retrospective, descriptive, and analytical study of a cohort of patients whose initial complaint was daytime UI treated at the Urinary Dysfunction Outpatient Clinic of the Instituto da Criança do Hospital das Clínicas da Faculdade de Medicina da Universidade de São Paulo (ICr/HC-FMUSP), from March of 2000 to December of 2012. The terminology used in this study complied with the standards established in 2006 by the International Children's Continence Society (ICCS) and its 2014 addendum.^{2,3}

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