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The Iowa Voiding Improvement Partnership experience: Early observations with a collaborative pediatric uro-psychologic clinic

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Summary

Introduction
Bladder and bowel dysfunction (BBD) are common problems in children presenting for pediatric urology referral. Psychiatric issues may be present in these children, making their treatment difficult. In 2013, the University of Iowa Voiding Improvement Partnership (VIP) Clinic was established for the treatment of these patients.

Study Objective
This study sought to evaluate early experience with this specialized clinic, to determine the pre-existing urologic and psychologic conditions seen in these clinic patients, and to evaluate the clinical outcomes after VIP treatment.

Study Design
A retrospective, Institutional Review Board-approved review of all patients seen in the VIP Clinic was performed. The following were evaluated: patient demographics, underlying urologic and psychologic diagnosis, and treatment decisions. All patients were asked to complete the University of Iowa Pediatric Bladder and Bowel Dysfunction questionnaire at each visit. Questionnaire scores from the patients' first and most recent clinic visits were compared.

Results
To date, 66 patients have been evaluated at the VIP Clinic, accounting for 112 clinic visits. The mean age of the VIP patients was 8.5 years (range, 4—16) and 59% of the patients were female. Pre-existing urological conditions and psychological conditions are shown in the Summary Table. A large number (62%) of patients required further psychological evaluation, secondary to concern for an undiagnosed psychiatric issue. In addition, the clinic had improved patients' BBD symptoms over time. When first evaluated in clinic, patients had an average Iowa BBD Questionnaire score of 31 (range, 47—13), which improved to an average score of 25 (range, 47—7) ($P = 0.03$). In addition, 23% of the patients improved to where they could be discharged from uro-psychologic care.

Conclusions
It was feasible to establish the present multidisciplinary uro-psychology clinic. Such a clinic may unearth undiagnosed psychological issues, and improve bowel and bladder dysfunction in these difficult-to-treat patients.

Summary Table Patient and clinic characteristics.

Mean patient age, years (range)		8.5 (4—16)
Sex, mean *n* (%)	Male	27 (41%)
	Female	39 (59%)
Pre-existing urologic conditions, mean *n* (%)	Urinary incontinence	64 (98%)
	Constipation	63 (97%)
	Nocturnal enuresis	45 (68%)
	Recurrent UTI	26 (40%)
	Voiding dysfunction	17 (26%)
Pre-existing psychological conditions, mean *n* (%)	Attention deficit hyperactivity disorders (ADHD)	50 (77%)
	Anxiety disorders	23 (35%)
	Oppositional defiant disorder (ODD)	17 (26%)
	Autism spectrum disorders	8 (12%)
	Obsessive compulsive disorder (OCD)	3 (5%)
	Parent—child relationship problems	3 (5%)
Questionnaire results, mean number of points (range)	First clinic visit	31 (47—13)
	Most recent clinic visit	25 (47—7)
Clinic treatment decisions, mean *n* (%)	Maintained in VIP clinic	51 patients (77%)
	Discharged from care	15 patients (23%)
	Referred for further psychological evaluation	48 patients (62%)

VIP, Voiding Improvement Partnership.

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Introduction

Bladder and bowel dysfunction (BBD) are common problems in children, and constitute up to 40% of pediatric urology clinic visits [1]. Daytime and nighttime urinary incontinence are common in children with BBD, which can be a major stressor and may negatively impact a child's self-esteem and quality of life [2,3]. In addition, underlying psychiatric disorders are quite common in children with BBD. Studies have shown that 20—30% of patients with primary nocturnal enuresis have an underlying neuropsychiatric disorder, and that incidence increases to 30—40% in patients with daytime urinary incontinence, and 30—50% in patients with fecal incontinence [4]. Recent data also suggest that there may be a common central neurologic etiology causing the complex interplay between urinary incontinence, encopresis, and neuropsychiatric issues [4]. Children with psychiatric issues resulting from or contributing to BBD may be difficult to treat, and at times may require specialized treatment that a pediatric urologist alone is not equipped to administer. Successful treatment for these children often hinges on obtaining proper psychological help.

In 2013, the Voiding Improvement Partnership (VIP) Clinic at the University of Iowa was established. This clinic was developed for children with BBD with concomitant behavioral and/or neuro-psychiatric issues secondary to and/or contributing to their urinary and gastrointestinal issues. A University of Iowa pediatric urology provider first evaluates VIP Clinic patients at a standard, separate pediatric urology clinic visit. Patients are then referred to the VIP Clinic if treatment has been refractory to conservative measures and/or the child's behavior or psychiatric disorder is deemed to play a major role in their BBD. Some patients are referred after an initial urology clinic visit, while others may have tried conservative treatment. If it is felt that psychiatric issues are a significant impediment to improving urologic issues during follow-up standard urology visits, then a VIP Clinic referral is initiated. In some circumstances, a child may be referred because of behavioral issues without a profound psychologic issue, for example: parents may describe their child as being profoundly 'stubborn' and just refusing to use the restroom, resulting in urine and stool accidents. In other instances, a substantial psychiatric issue may have lead to these behaviors, such as some patients having social phobias or significant ADHD that contribute to their bowel and bladder issues, prompting a referral. These referral patterns make the treatment population very heterogeneous, but in each instance, it is felt that they would benefit from focused uro-psychologic care.

Once a child begins VIP Clinic treatments, they are seen solely in this clinic to manage their urologic and contributing psychologic issues. During all VIP Clinic visits, a pediatric urology provider (either a pediatric urologist attending or a nurse practitioner) and a pediatric child psychologist jointly evaluate the patients and their families. VIP visits are conducted with the pediatric urology provider, the child psychologist, the patient and any family members all in the exam room together. During VIP Clinic visits, patients are assessed for urologic and psychologic factors that may have contributed to the BBD, and treatment plans are individualized for the patient and their family. Treatment plans may include: additional testing to unearth undiagnosed neuro-psychiatric conditions, behavioral modification, and/or standard BBD uro-therapies such as constipation management, timed toileting, anticholinergics, and/or biofeedback. Patients are typically seen in follow-up of the VIP Clinic, and they may be discharged once they show significant improvement in their psychologic and concurrent urologic problems, the family and patient are pleased with their improved symptoms, and/or there is no longer a need for concentrated uro-psychologic care. In the latter circumstance, patients may be followed again in the standard pediatric urology clinic.

Patients who are referred into the VIP Clinic may already have received pre-existing psychologic care and may have already been treated with psychiatric medications. The goal of the VIP Clinic is to assist with any psychologic issue that may be impeding improvement with bowel and bladder dysfunction. As such, it is not typically asked that patients stop with any pre-existing outside psychologic care, and these outside providers are allowed to continue to manage any pre-existing psychiatric medications. In addition, as the clinic works with a child psychologist, she is unable to prescribe or manage any psychiatric medications, and none of the urologic providers either prescribe or manage these medications. If the child psychologist feels that a child may benefit from a new psychiatric medication, and they do not have pre-existing psychiatric care, the patient is then referred to a child psychiatrist who will manage and prescribe these medications.

This type of collaborative uro-psychologic BBD clinic is unique and few similar clinics exist. The present study sought to evaluate early experience with this specialized clinic, to determine the pre-existing urologic and psychologic conditions seen in these clinic patients, and to evaluate the clinical outcomes after VIP treatment. It was hypothesized that there would be a large percentage of patients suffering from urinary incontinence, constipation, recurrent UTI, attention defect hyperactivity disorder (ADHD), and that there would be improvement in these patients' urologic symptoms over time.

Materials and methods

A retrospective, Institutional Review Board (IRB)-approved review of all patients seen in the VIP Clinic was performed. Patient demographics, underlying urologic and psychologic diagnoses, and treatment decisions were evaluated. All patients were asked to complete the University of Iowa Pediatric Bladder and Bowel Dysfunction questionnaire at each of their visits. This is a validated 18-item, 5-point questionnaire utilized to evaluate bladder and bowel symptoms. Each question is scored 0—4 and the maximum questionnaire symptom score is 72, indicating severe BBD symptoms. Questionnaire scores from the patients' first and most recent clinic visits were compared. To be included in the questionnaire data analysis, patients needed to have at least two VIP Clinic visits. Variables were compared using Pearson Chi-squared testing (Prism Software Graph Pad, La Jolla, CA).

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