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KIDNEY DISEASE

Giggle Incontinence in an Adolescent Girl: A Case-based Review

Banafshe Dormanesh,[1] Bahareh Marghoob[2]

[1]Department of Pediatric, AJA University of Medical Sciences, Tehran, Iran
[2]Department of Nephrology, Hasheminejad Kidney Center, School of Medicine, Iran University of Medical Sciences, Tehran, Iran

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Giggle incontinence is a form of urinary incontinence triggered by giggling or laughter, with two distinct pathophysiological theories proposed for its etiology. Both neurologic receptor imbalance and urologic dysfunction have been suggested as potential underlying mechanisms.

We present a case-based review of a 12-year-old girl with refractory giggle incontinence who underwent comprehensive evaluation including physical examination, ultrasonography, bladder diary, uroflowmetry, and urodynamic studies. She was treated with a combined approach consisting of urotherapy and pelvic floor biofeedback. To enhance and accelerate therapeutic response, low-dose methylphenidate was added. Pharmacologic treatment was administered and tapered over four months, while non-pharmacologic interventions were continued for one year. Follow-up at 18 months demonstrated complete resolution of symptoms.

A comprehensive literature review on giggle incontinence was conducted using PubMed, Scopus, and Google Scholar databases for studies published since 2000. Based on current evidence, treatment should be individualized according to the presumed underlying mechanism, and successful management requires strong cooperation between the patient, her parents, and the healthcare team.

Based on our literature review, treatment depends on the causes, and success requires the patient's and her parents' trust and cooperation in carrying out the instructions.

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INTRODUCTION

Giggle incontinence is characterized by involuntary, complete bladder emptying triggered exclusively by laughter or giggling. It is more prevalent in females and typically involves large-volume voiding due to detrusor contraction accompanied by coordinated sphincter relaxation, resulting in complete bladder emptying.[1] The pathogenesis remains poorly understood. One of the most widely accepted theories suggests a central nervous system–mediated mechanism.[2]

There is no universally accepted standard treatment. Some experts advocate anticholinergic agents such as oxybutynin, while others support the use of methylphenidate as an effective preventive therapy. In addition to pharmacotherapy, behavioral

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interventions such as timed voiding and pelvic floor biofeedback therapy have been recommended.[3] Due to the significant social embarrassment associated with this condition, patient and parental cooperation is essential for successful treatment.[4,5]

Herein, we present a refractory pediatric case successfully managed with combined therapy and provide a review of current evidence regarding diagnostic evaluation and treatment strategies for giggle incontinence.

CASE REPORT

A 12-year-old girl presented with lifelong giggle incontinence triggered exclusively by laughter. She was described as cheerful and socially active; however, according to her parents, she had recently begun avoiding social gatherings and volleyball practice due to fear of embarrassment. She was an only child, born to non-consanguineous parents, with no family history of similar symptoms.

She achieved daytime urinary continence at 36 months of age and had no history of nocturnal enuresis. Previous treatment with oxybutynin for eight months had been ineffective.

She reported voiding approximately five times per day, with a maximum voided volume of 300 mL. Bowel movements occurred regularly (1 to 2 times daily), with a Bristol Stool Scale score of 3 to 4.[6] Physical examination was unremarkable. There was no abdominal or costovertebral tenderness. No signs of puberty were present, and genital examination revealed no erythema, inflammation, or discharge.

A 48-hour bladder diary demonstrated an average urine output of approximately 2 mL/kg/h, with consistent daily fluid intake.

Urinalysis and urine culture were normal. Blood urea nitrogen and serum creatinine levels were within normal limits.

Ultrasonography (Figure 1) showed normal renal size and echogenicity, normal parenchymal thickness, and no hydronephrosis or pelvic dilation. Bladder wall thickness was normal, and post-void residual volume was insignificant.

Uroflowmetry (Figure 2) demonstrated a relatively normal urinary flow pattern without evidence of obstruction but with delayed initiation of voiding, suggestive of pelvic floor over activity or anxiety-related voiding delay.[7]

Video urodynamic study (Figure 3) was unremarkable except for delayed voiding initiation without evidence of anatomical or functional obstruction.

A one-hour educational and counseling session was conducted with the patient to explain the nature of her condition and the proposed treatment plan. A combined therapeutic strategy was initiated, including Urotherapy, pelvic floor biofeedback therapy (PFBT), Kegel exercises, and low-dose methylphenidate (Table 1).

Symptoms improved significantly within four

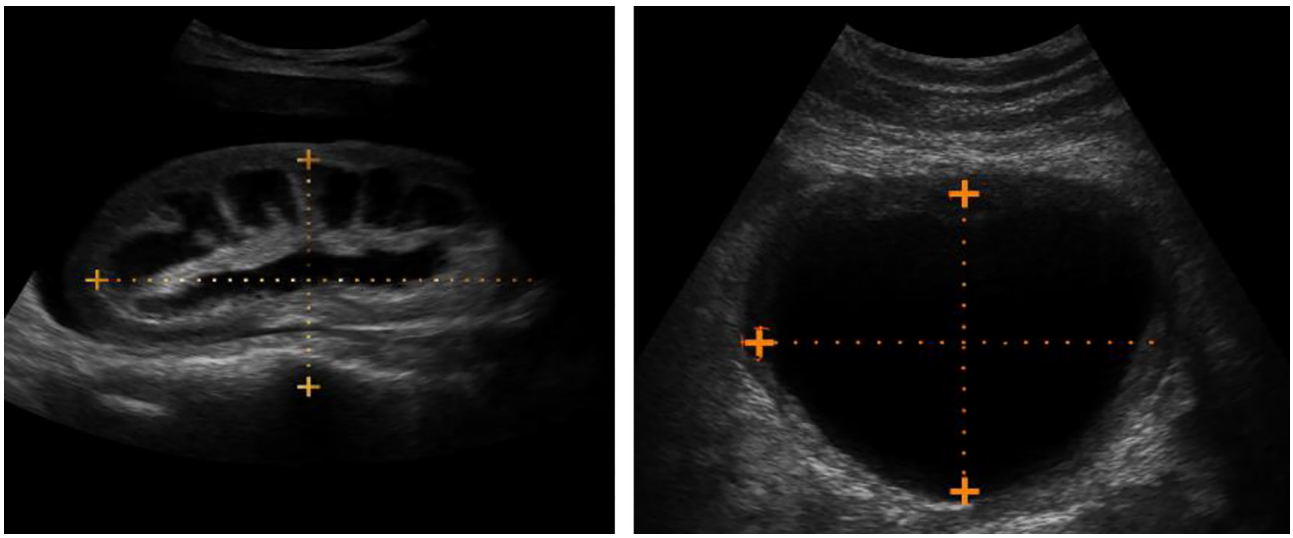

Figure 1. Abdominal and Pelvic Ultrasonography

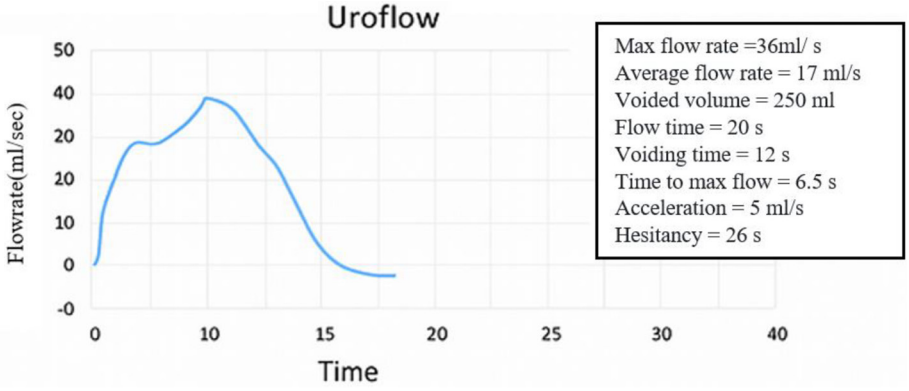

Figure 2. Flowmeter Results

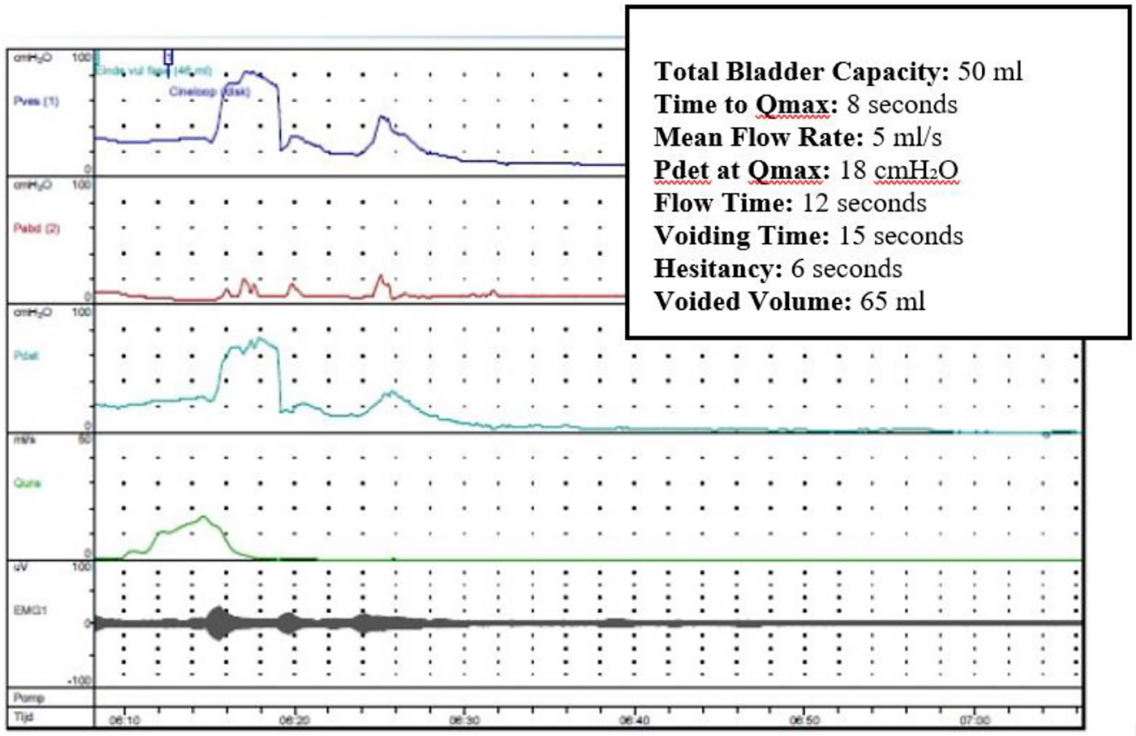

Figure 3. Video Urodynamic Investigation

months, and complete remission was maintained during 18 months of follow-up.

LITERATURE REVIEW

We reviewed published case reports and case series on giggle incontinence identified through PubMed, Scopus, and Google Scholar using the following keywords: giggle incontinence, daytime urinary incontinence, urotherapy, biofeedback, methylphenidate. Studies published since 2000 in English or Persian were included.

The search yielded 18 case reports and 34 review articles in the pediatric population.

Giggle incontinence is considered a rare but distinct subtype of childhood daytime urinary incontinence, characterized by sudden, complete bladder emptying exclusively during laughter. It predominantly affects school-aged children and adolescents, particularly females.[1,8,21]

Two principal pathophysiological theories have been proposed. The first suggests a neurologic origin resembling cataplexy or other central nervous system disorders. This theory emphasizes neural pathway modulation and supports the use

Table 1. Combined Treatment Strategy Which Was Done for Our Patient

Education (advise)	should not be punished for wetting void regularly during the day (about seven times each day) restrict fluid at each intake to 100-150 cc restrict specific fluid intake (caffeine such as cola or tea or bubbles, citrus juices & sports drinks) Consume a variety of fresh fruits and vegetables in the day Consume whole grains bread in the diet to prevent constipation Reduce the consumption of high-fat meat Keep their lower limbs warm Void before starting an activity, which can help avoid leaks avoid lifting heavy objects wear absorbent urinary pads or underwear in activities
Urotherapy	improve bladder emptying quality by urinating in a relaxed way, and to achieve this purpose: ● Sit up straight, keep both feet on the ground ● Keep your tummy relaxed, and breath out gently ● Stay calm, and don't force yourself to urinate. Let your urine flow out on its own. Just listen to make sure your urine flow is in a steady stream trying and going for urinate at regular times (about seven times each day) don't delay your regular urination schedule for any reason way at regular Be sure to urinate during breaks at school, even if the toilets are dirty, which you can do in a standing position, or you can skip washing yourself and change your underwear after you get back from school
Pelvic floor biofeedback therapy (PFBT)	Conducting physiotherapy sessions twice a week for a total of 12 sessions to strengthen the pelvic floor muscles Performing Kegel exercises to increase awareness, and control of pelvic floor muscles contraction, which initially practices in both lying and sitting position, and under ultrasound and digital palpation controls in office, then continue your practice by gymnastics balance exercises, and walking and about one hour a day Re-emphasizing the need to be calm while urinating and ensuring complete emptying of your bladder
Pharmacotherapy	Low dose chewable Methylphenidate 5mg twice daily and preferably taken 30-45 minutes before meals, and the last dose should be taken before 6 p.m., so it doesn't cause problems such as constipation or insomnia

of methylphenidate.[9,10]

The second theory proposes a primary urologic dysfunction, supporting the use of Urotherapy and pelvic floor biofeedback.[10,11]

In 2023, von Gontard *et al.* developed a clinical guideline for diagnosis and treatment based on literature review, surveys, and consensus conferences, although universal acceptance has not yet been achieved.[12]

DISCUSSION

The primary limitation of this report is its single-case design, which precludes determining the individual contribution of each treatment modality.

As summarized in Table 2, most studies rely on clinical history, physical examination, and bladder diaries for diagnosis. Some include Uroflowmetry or electromyography. Treatment strategies vary and include pharmacotherapy, pelvic floor biofeedback therapy, intravesical botulinum toxin injection, and transcutaneous electrical nerve stimulation.

Across studies, no single treatment strategy has demonstrated clear superiority. Complete resolution has rarely been reported, and most interventions achieve approximately 55 to 65% clinical improvement.

Our patient achieved complete remission with a combined multimodal approach, suggesting that individualized therapy addressing both neurologic and urologic mechanisms may improve outcomes.

CONCLUSIONS

Giggle incontinence is a rare but socially distressing disorder in children and adolescents. Accurate diagnosis and exclusion of other causes of urinary incontinence are essential.

Current evidence supports an individualized, multimodal therapeutic approach, particularly combining Urotherapy, pelvic floor rehabilitation, and selective pharmacologic treatment.

Our case highlights the importance of detailed patient education and reassurance. Ensuring diagnostic accuracy and carefully explaining even seemingly minor treatment details can significantly enhance adherence and clinical outcomes.

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Table 2. Summary of Reported Cases of Patients with Giggle Incontinence

	Patient (age, sex)	Diagnostic Evaluation	Diagnostic findings	Treatment strategy
Chandra M. et al. 2002[15]	109 patients 5 -15 y.	Clinical History & Physical exam	detrusor instability	Pharmacotherapy (anti cholinergic)
Telli O. et al. 2016[16]	48 patients median age 8.4 y. (5-16)	Uroflowmetry -EMG & post-void residual volume evaluation	detrusor instability	Pharmacotherapy (alpha-adrenergic blockers)
Taylor AS et al. 2019[14]	229 patients (64 F.) median age 10.1y. (6.2-17.0)	Bladder Bowel Dysfunction (BBD) questionnaires & EMG during voiding	High post-void residual (PVR)	Pelvic floor Biofeedback Therapy (PFBT)
Nieuwhof-Leppink AJ. et al. 2021[9]	52 patients 8 -17 y.	Clinical History & Physical exam Urinary chart	Just based on history	pelvic floor biofeedback therapy & anal balloon expulsion (BABE) Urotherapy
Mohan Kunnath S. et al. 2021[12]	seven patients (6 F., 1 M.) median age13.5 y. (10.4-15.7)	Video-urodynamic	Detrusor over activity (in 6) sudden pelvic floor relaxation (in 3)	Pharmacotherapy
San ST et al. 2021[3]	227 patients median age 9.5 y. (5-14)	Bladder Bowel Dysfunction (BBD) questionnaires & real-time Uroflowmetry	Detrusor over activity	Pharmacotherapy & Education (regular bladder empting)
Hacıislamoğlu A. et al. 2021[17]	38 patients median age 7.5 y. (5-11)	Clinical History & Physical exam	Just based on history	Pharmacotherapy & pelvic floor strengthening exercises at home
Wefer B. et al. 2007[18]	A 20 y. female	Refractory GI despite anti-muscarinic therapy	Just based on history	Intra-vesical Botox injection
Szwarcberg E. et al. 2026[19]	17 patients median age 11 y. (6-17)	Clinical History & Physical exam	Just based on history	Intra-vesical Botox injection
Tugtepe H. et al. 2015[20]	27 patients median age 7.2 y.	Uroflowmetry -EMG parameters & bladder capacity	Decrease bladder capacity & increase Qmax, Qave and flow time	transcutaneous electrical nerve stimulation

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CONFLICT OF INTEREST

The authors declare that they have no conflict of interest

ETHICS APPROVAL AND CONSENT TO PARTICIPATE

Consent was obtained to participate.

CONSENT FOR PUBLICATION

Consent was obtained for publication.

AVAILABILITY OF DATA

All data generated or analyzed during this study are included in this published article

REFERENCES

1. González-Maldonado AA, García-Mérida M. Giggle incontinence: a scoping review. Pediatr Res 2024;95:1720.
2. Abdelmonem II, Khan MK, Abdulrahman Al Muhammadi O, Rozan A, Merdad MJ, et al. Giggle incontinence: A rare condition with a successful management. Urol Case Rep. 2022; 42:102033.
3. San ST, Barnes EH, Caldwell PHY. Urinary incontinence during laughter in children: Is it giggle incontinence? J Paediatr Child Health. 2021;57(12):1971-5.
4. Rakowska-Silska M, Jobs K, Paturej A, Kalicki B. Voiding Disorders in Pediatrician's Practice. Clin Med Insights Pediatr. 2020;14:1179556520975035.
5. Richardson I, Palmer LS. Successful treatment for giggle incontinence with biofeedback. J Urol 2009;182:2062.
6. Lewis SJ, Heaton KW. Stool form scale as a useful guide to intestinal transit time. Scand J Gastroenterol. 1997;32(9):9204.
7. Haylen BT, de Ridder D, Freeman RM, Swift SE, Berghmans B, Lee J, et al. An International Urogynecological Association (IUGA)/International Continence Society (ICS) joint report on the terminology for female pelvic floor dysfunction. Neurourol Urodyn. 2010;29(1):420.
8. Logan BL, Blais S. Giggle incontinence: Evolution of concept and treatment. J Pediatr Urol. 2017;13(5):430-5.
9. Nieuwhof-Leppink AJ, Hussong J, Chase J, Larsson J, Renson C, Hoebeke P, et al. Definitions, indications

and practice of urotherapy in children and adolescents: - A standardization document of the International Children's Continence Society (ICCS). J Pediatr Urol. 2021;17(2):172-81.

10. Malykhina AP, Brodie KE, Wilcox DT. Genitourinary and gastrointestinal co-morbidities in children: The role of neural circuits in regulation of visceral function. J Pediatr Urol. 2017;13(2):177-82.
11. Taylor AS, Cabo JJ, Lauderdale C, Maskan N, Thomas JC, Tanaka ST, et al. Pelvic floor biofeedback therapy in children: Assessment of symptom scores in responders and non-responders. Neurourol Urodyn. 2019;38(1):254-60.
12. von Gontard A, Kuwertz-Bröking E. Enuresis und nicht-organische (funktionelle) Harninkontinenz bei Kindern und Jugendlichen – klinische Leitlinie zur Diagnostik und Therapie [Functional (Nonorganic) Enuresis and Daytime Urinary Incontinence in Children and Adolescents: Clinical Guideline for Assessment and Treatment]. Z Kinder Jugendpsychiatr Psychother. 2023;51(5):375-400.
13. Mohan Kunnath S, Clothier J, Solomon E, Wright AJ, Taghizadeh A. Urodynamic characterization of giggle incontinence in children. Neurourol Urodyn. 2021;40(6):1600-8.
14. Taylor AS, Cabo JJ, Lauderdale C, Maskan N, Thomas JC, Tanaka ST, et al. Pelvic floor biofeedback therapy in children: Assessment of symptom scores in responders and non-responders. Neurourol Urodyn. 2019;38(1):254-60.
15. Chandra M, Saharia R, Shi Q, Hill V. Giggle incontinence in children: a manifestation of detrusor instability. J Urol. 2002;168(5):2184-7; discussion 2187.
16. Telli O, Hamidi N, Kayis A, Suer E, Soygur T, Burgu B. Can the success of structured therapy for giggle incontinence be predicted? Int Braz J Urol. 2016;42(2):334-8.
17. Hacıislamoğlu A, Ekşi M, Özlü DN, Yavuzsan AH, Evren İ, Karadağ S, et al. Evaluation of the efficacies of methylphenidate and biofeedback treatments in giggle incontinence: One-year follow-up study. J Pediatr Urol. 2021;17(5):646.e1-646.e5.
18. Wefer B, Seif C, van der Horst C, Jünemann KP, Braun PM. Botulinumtoxin-A-Injektion bei therapierefraktärer Giggle-Inkontinenz [Botulinum toxin A injection for treatment-refractory giggle incontinence]. Urologe A. 2007;46(7):773-5. German.
19. Szwarcberg E, Kimber C, Taghavi K. Intravesical botox as an effective therapy for giggle incontinence in children. Pediatr Surg Int. 2026;42(1):103.
20. Tugtepe H, Thomas DT, Ergun R, Kalyoncu A, Kaynak A, Kastarli C, et al. The effectiveness of transcutaneous electrical neural stimulation therapy in patients with urinary incontinence resistant to initial medical treatment or biofeedback. J Pediatr Urol. 2015;11(3):137.e1-5.
21. Nevéus T, von Gontard A, Hoebeke P, Hjälmås K, Bauer S, Bower W, et al. The standardization of terminology of lower urinary tract function in children and adolescents: report from the ICCS. J Urol. 2006;176(1):31424.

Correspondence to:
Bahareh Marghoob, MD
Assistant Professor of Nephrology. Nephrology Section, Department of Medicine, Hasheminejad Kidney Center, School of Medicine, Iran University of Medical Sciences (IUMS), Tehran, Iran
ORCID ID: 0000-0002-1895-2785
E-mail: baharehmarghoob@yahoo.com

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