CASE REPORT

A Case of Functional Non-Retentive Fecal Incontinence Mimicking Organic Disease

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ABSTRACT

Functional non-retentive fecal incontinence is a challenging condition having a deep psychological and social impact on the child as well as on the family. This condition is often not recognized in a timely manner, that leads to delayed management. Twenty percent of fecal incontinence belongs to this category. According to the Rome IV criteria, FNRFI requires a history of at least one month in a child with a developmental age of at least four years, with inappropriate defecation, no evidence of fecal retention, and no alternative medical explanation. Treatment is often challenging because of the presence of underlying psychological and behavioral factors. We report an 11-year-old boy with a four-year history of daily fecal soiling. Neurological examination and spinal MRI were unremarkable. Digital rectal examination showed reduced anal sphincter tone without impaction, and colonic transit time was normal (48 hours). The diagnosis was made clinically according to the Rome IV criteria, with no evidence of fecal retention; the normal neurological examination, spinal MRI, and colonic transit study supported the evaluation for alternative causes. We advised a behavioral therapy that focused on scheduled toileting and positive reinforcement strategies. This case report emphasizes the value of a systematic diagnostic approach. In this patient, scheduled toileting and positive reinforcement were associated with marked improvement in continence. This approach also helps to avoid unnecessary and invasive testing.

Key Words: *Behavioral therapy; Children; Fecal incontinence; Functional non-retentive; Rome IV criteria*

INTRODUCTION

Functional fecal incontinence (FI) is a distressing pediatric condition that significantly impacts a child's psychological well-being and social development. Functional non-retentive fecal incontinence (FNRFI) is identified in approximately 0.8–1.5% of children over four years of age, typically presenting with a 2:1 male-to-female ratio[1]. According to the Rome IV criteria, FNRFI is defined as the involuntary passage of stool in the absence of clinical evidence of constipation or fecal retention. Unlike constipation-associated incontinence, FNRFI is frequently associated with behavioral or psychosocial stressors[2]. Clinical management is often complicated by the tendency to misdiagnose FNRFI as constipation-related FI, which leads to the inappropriate and redundant use of laxatives. While a meticulous clinical history and physical examination, guided by the Rome IV

framework, are generally sufficient for an accurate diagnosis, clinical reality is often more complex[3]. Distinguishing FNRFI from constipation-related incontinence or underlying organic conditions such as occult spinal dysraphism, remains a significant challenge in daily practice[4,5]. This diagnostic uncertainty often leads to the over-investigation, including unnecessary abdominal radiography or complex anorectal manometry. A delay in diagnosis put the child in a vicious cycle where a lack of appropriate management leads to persistent soiling, further increasing social stigma and emotional distress.

CASE REPORT

Clinical Presentation: An 11-year-old boy was referred to our clinic with a history of daily fecal soiling from the last four-year. Birth history was unremarkable and he had achieved developmental milestones appropriately. His physical growth was within normal limits. On clinically probing, the patient passes the small-to-moderate amounts of stool, involuntarily. The soiling episodes occurred mostly between 03:00 and 06:00 PM. There was no history of constipation, painful defecation, abdominal pain, or urinary issues. Parents gave the history that the child has habit of avoiding to visit toilet while playing act. There was no psychological issue identified on further probing.
Examinations: On physical examination a healthy, well-nourished 11 years old child, sitting comfortably on chair. His Higher mental function was intact. The perianal region was normal, showing no signs of fissures, scarring, or anatomical anomalies. A digital rectal examination (DRE) was performed; while the resting anal sphincter tone was noted to be slightly decreased, there was no evidence of fecal impaction or rectal vault loading. A thorough neurological assessment, including evaluation of the anal wink reflex, lower limb muscle strength, tone, and deep tendon reflexes, was entirely normal, effectively ruling out common lower motor neuron or sacral nerve involvement.
Investigations: A lumbosacral spine magnetic resonance imaging (MRI) scan showed that the conus medullaris terminated at the normal L1 level, with no evidence of spinal dysraphism, tethered cord, or syrinx. A Sitzmarks® study shown in figure 1 was performed to assess colonic transit; the colonic transit time was 48 hours, within the reported normal range, providing supportive evidence against significant delayed colonic transit.

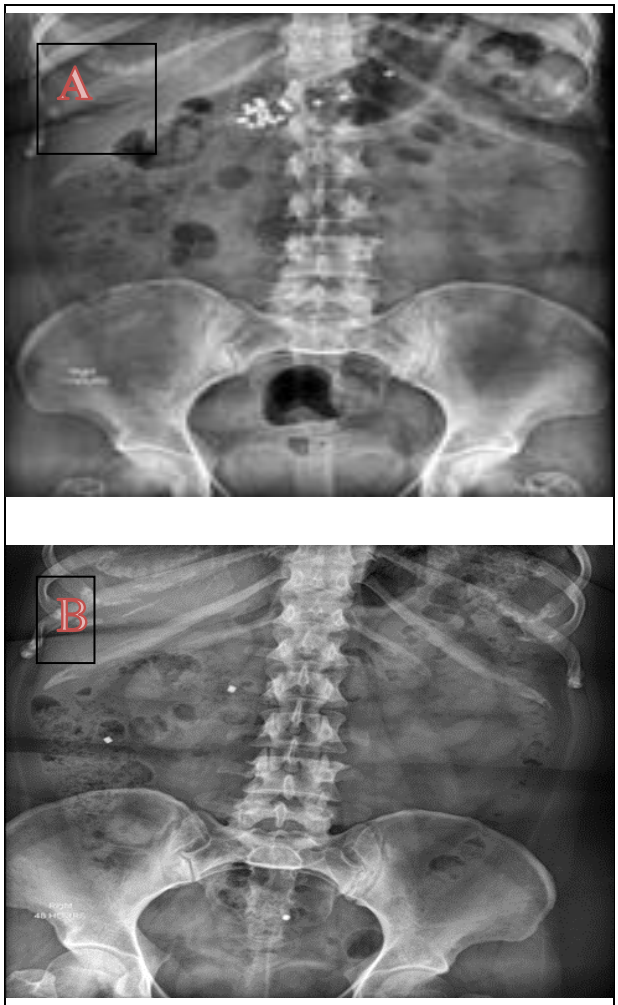


Figure 1: 48-hour colonic transit X-ray demonstrating normal distribution of radiopaque markers (≤3 retained), supporting exclusion of constipation-associated fecal incontinence.

The diagnosis was made clinically according to the Rome IV criteria, based on the history of inappropriate stool passage, absence of fecal retention, and absence of an identified alternative medical cause. The normal spinal MRI and colonic transit study supported the evaluation for structural and transit-related causes.

Management: Management stressed on behavioral modification. We advised the patient to attempt defecation after each meal and again at 04:00 PM, targeting the time he usually soiled. A reward chart helped improve compliance. We also advise regarding his intake of fiber diet to ensure it did not increase his stool volume or daily frequency.

Course and Outcome: After three-month follow-up, the patient had significant improvement in daily continence. The patient's adherence to the routine resulted in a marked decrease in daily soiling incidents. By six months, the patient reported complete resolution of fecal incontinence. In this case, the improvement followed a structured behavioral approach; however, a single case cannot establish the effectiveness of this approach for all children with FNRFI.

DISCUSSION

This case is challenging in terms of both its diagnosis and management. As a result, children with FNRFI often undergo a battery of unnecessary tests. In this patient, the absence of clinical features of constipation and fecal retention supported a diagnosis of FNRFI. The normal colonic transit study and spinal MRI were supportive investigations used to assess possible transit-related and structural causes, rather than to establish the diagnosis. In this patient, the clinical assessment was central to the diagnosis, with investigations used selectively to assess possible organic causes. The 48-hour colonic transit study was within the reported normal range and did not suggest significant delayed transit. The spinal MRI showed no structural abnormality such as tethered cord or spinal dysraphism. The slightly reduced resting anal sphincter tone was noted, but there was no fecal impaction and the neurological examination was normal. These findings supported the clinical assessment without implying that MRI or transit testing alone establishes FNRFI. In this patient, significant improvement was observed after a structured toilet schedule and reward chart. This favorable response should be interpreted as an outcome of the present case rather than evidence of treatment effectiveness in all children. The case also emphasizes the importance of parent education and behavioral support when managing fecal soiling.

FNRFI is primarily a clinical diagnosis based on the Rome IV criteria and appropriate evaluation for alternative causes. In this case, careful history, examination, and selected investigations helped support the diagnosis without attributing it solely to the MRI or transit study.In conclusion, early recognition of the clinical features of FNRFI can help avoid inappropriate treatment. In this patient, behavioral support was associated with complete resolution of fecal incontinence during follow-up, but the findings should not be generalized beyond this single case.

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REFERENCES

1. Rajindrajith S, Devanarayana NM, Thapar N, Benninga MA. Functional fecal incontinence in children: epidemiology, pathophysiology, evaluation, and management. J Pediatr Gastroenterol Nutr. 2021;72(6):794-801.
2. Shen ZY, Zhang J, Bai YZ, Zhang SC. Diagnosis and management of fecal incontinence in children and adolescents. Front Pediatr. 2022;10:1034240.
3. Koppen IJ, von Gontard A, Chase J, Cooper CS, Rittig CS, Bauer SB, et al. Management of functional nonretentive fecal incontinence in children: recommendations from the International Children's Continence Society. J Pediatr Urol. 2016;12(1):56-64.
4. Hyams JS, Di Lorenzo C, Saps M, Shulman RJ, Staiano A, van Tilburg M. Functional disorders: children and adolescents. Gastroenterology. 2016;150(6):1456-1468.e2.
5. Tabbers MM, DiLorenzo C, Berger MY, Faure C, Langendam MW, Nurko S, et al. Evaluation and treatment of functional constipation in infants and children: evidence-based recommendations from

ESPGHAN and NASPGHAN. J Pediatr Gastroenterol Nutr. 2014;58(2):258-274.

6. Vriesman MH, Koppen IJN, Camilleri M, Di Lorenzo C, Benninga MA. Management of functional constipation in children and adults. Nat Rev Gastroenterol Hepatol. 2020;17(1):21-39.

Authors' contribution

NJ: Proposed topic, basic study design, methodology and manuscript writing, Data collection, statistical analysis and interpretation of results etc. Literature review & referencing and quality insurer .

All the authors have approved the final manuscript draft and accept the responsibility of research integrity.