

Behavioral and Psychiatric Associations with Rectal Prolapse in Older Children

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Abstract

Background: Rectal prolapse (RP) in the pediatric population is a rare yet challenging condition. This study aimed to characterize the mental and behavioral health disorder (MBHD) history in our cohort of RP patients and compare their outcomes.

Methods: This retrospective cohort study, conducted at a single center, reviewed all patients undergoing surgical evaluation for RP between 2016 and 2021.

Results: Among 56 identified patients, 30 met inclusion criteria, with 16 (53.3%) having documented MBHD. Patients with MBHD were notably older (14.4 vs 9.4 years, $p=0.027$) and exhibited higher rates of constipation (94% vs 17%, $p=0.05$). They also experienced a significantly longer duration of medical management before intervention compared to those without MBHD (216 vs 57 days, $p=0.046$). Notably, a higher proportion of patients with MBHD underwent operative intervention for rectal prolapse (50% vs 14.2%, $p=0.019$).

Conclusions: Pediatric patients with rectal prolapse demonstrate a considerable prevalence of MBHD. Despite prolonged periods of medical management, a substantial number of these patients ultimately require operative intervention.

Abbreviations

MBHD: Mental and Behavioral Health Disorders; DSM-5: Diagnostic and Statistical Manual of Mental Disorders; SSRIs: Selective Serotonin Reuptake Inhibitors; RP: Rectal Prolapse.

1. Introduction

Rectal prolapse, the protrusion of part or the entire rectum outside the anus, predominantly affects children under four years old, though occurrences in older children and adolescents are not uncommon. The global incidence varies, and the etiology of rectal prolapse in children is often multifactorial or idiopathic [1,2]. Environmental risk factors

include parasitic diseases, malnutrition, and diarrheal illnesses. Additionally, it can be associated with conditions like idiopathic chronic constipation, cystic fibrosis, neurologic disorders (e.g., myelomeningocele, tethered cord, spinal trauma), Hirschsprung's disease, Ehlers-Danlos syndrome, pertussis, rectal polyps, bladder exstrophy, and post-surgical repair of anorectal anomalies. Although many children naturally resolve their prolapse or respond to constipation management, those with refractory cases face a significant disease burden.

While initial management often involves a trial of medical interventions for constipation, there's no consensus on the specific types or duration of these interventions. Surgical intervention is considered for patients with persistent or worsening symptoms, rectal pain, bleeding, ulceration, or prolapse that requires frequent manual reductions or is challenging to reduce. Children with more frequent prolapse episodes, especially those requiring manual reduction, are less likely to respond to non-operative management. Rates of prolapse are notably elevated in individuals with intellectual disabilities, and behavioral problems are more commonly observed in children who do not respond to medical management. Despite these insights, there is a lack of comprehensive data on mental and behavioral health disorders (MBHD) in children with rectal prolapse, including the specific types of disorders, associated medications, and recurrence rates after surgical intervention. This study aims to illuminate the mental health history of our rectal prolapse patient population and explore the associated outcomes, to optimize their treatment [3-6].

2. Methods

A retrospective review of electronic medical records was conducted at a single center, encompassing all patients who underwent an assessment for rectal prolapse in our surgical clinic between 2016 and 2021.

Exclusion criteria comprised children under three years old, considering limitations in formal mental and behavioral health diagnoses in this age group. Patients with anorectal malformations, spinal cord anomalies, or sacral-coccygeal teratoma were also excluded due to the alternative pathophysiology associated with rectal prolapse in these cases.

The analysis involved reviewing patient charts for past medical history and mental and behavioral health disorder (MBHD) history, as well as examining the timing and duration of rectal prolapse treatment, the necessity for surgical intervention, and subsequent recurrence. To be

categorized with an MBHD, formal mental or behavioral health diagnoses meeting the Diagnostic and Statistical Manual of Mental Disorders (DSM-5) criteria, assessed by a medical provider, were required. Conditions such as learning disabilities and developmental delays were not considered MBHD [7,8]. Mental health medication uses at the time of rectal prolapse evaluation were also documented. Due to limitations in standardized documentation, participation in behavioral therapy or counseling was not included in this analysis. Statistical analysis involved Student t-tests for continuous variables, while Chi-square analysis and Fisher's Exact test were utilized for categorical variables. The significance level was set at a p-value of <0.05.

3. Results

3.1 Prevalence of Mental/Behavioral Health Disorders and Treatment:

Out of the initially identified 56 patients, 30 met the inclusion criteria. The age range at presentation varied from 3.1 to years old, with a median age of 12.5 years old. Among these patients, 16 (53.3%) had a documented Mental and Behavioral Health Disorder (MBHD). Within the MBHD group, 81.2% had multiple diagnoses. Anxiety was the most prevalent, affecting 11 patients (67%), followed by attention deficit hyperactivity disorder (7, 44%), autism (5, 31%), obsessive-compulsive disorder (4, 25%), depression (2, 12.5%), and anorexia/avoidant restrictive food disorder (2, 12.5%). Notably, developmental delay (5 patients) and speech delay (2 patients) were observed, although they were not classified as MBHD. Among patients with MBHD, 8 (50%) were using associated medications, with SSRIs/SNRIs (7, 43.8%) being the most common, followed by stimulants (3, 18.8%), and clonidine (3, 18.8%) (Figures 1 and 2) [9-15].

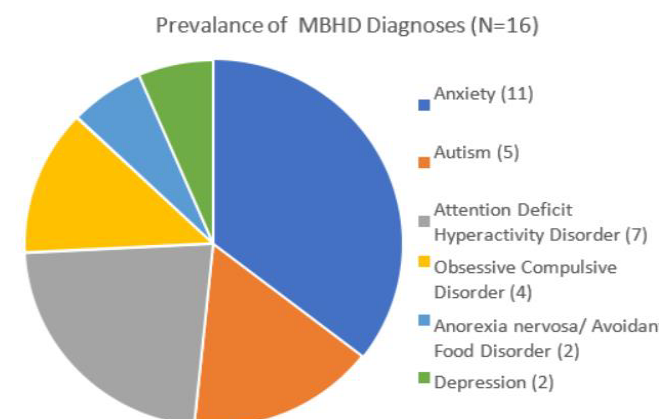


Figure 1: Prevalence of Mental Health Disorders.

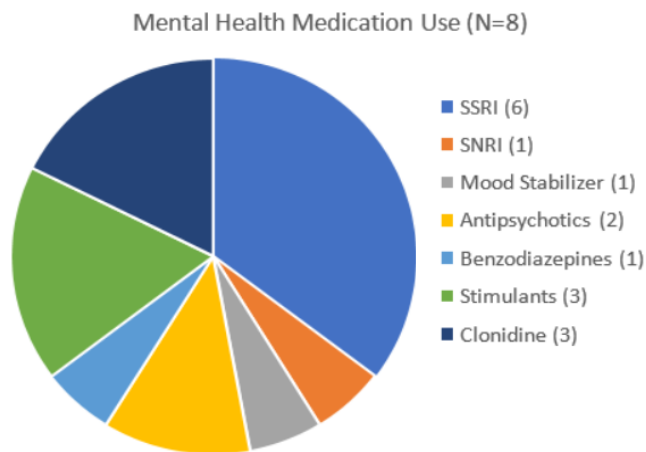


Figure 2: Mental Health Medication Use.

3.2 Patient Characteristics and Symptoms at Presentation:

There was no significant gender difference between the MBHD and non-MBHD groups. However, patients with MBHD were significantly older at presentation compared to those without (14.4 vs. 9.377 years, $p=0.027$). No patients had a history of predisposing conditions such as cystic fibrosis or inflammatory bowel disease. The duration of symptoms was similar between the two groups (18.69 months vs. 21.87 months, $p=0.355$). Patients with MBHD had a higher rate of constipation (94%) compared to those without MBHD (17%, $p=0.05$). Reports of diarrhea and pain were similar between groups. Patients with MBHD had significantly higher rates of incontinence (37.5%) than those without (7.1%, $p=0.025$). Patients with MBHD also had significantly more emergency room visits for the evaluation of rectal prolapse than patients without MBHD (5.75 vs. 1.25, $p=0.028$).

3.3 Management of Rectal Prolapse

The median duration of follow-up from the initial surgical evaluation was 2.78 years. While both groups had similar rates of medical management (100% vs. 94%, $p=1.0$), patients with MBHD had a longer duration of medical management before surgical intervention (216 days vs. 57 days, $p=0.046$). Patients with MBHD were also more likely to undergo pelvic floor physiotherapy (44% vs. 14%, $p=0.039$). Four patients in each group underwent sclerotherapy, with two from each group requiring repeat sclerotherapy. Although sclerotherapy rates were similar between the groups, 75% of patients with MBHD who underwent sclerotherapy ultimately required surgery, compared to 25% in the group without MBHD ($p=0.157$) (Tables 1-3).

Table 1: Patient Characteristics.

	Patients with out MBHD	Patients with MBHD	Total Cohort	P value
Average age at Presentation(years)	9.38	14.24	11.81	0.027
History of Prematurity (<36 weeks gestation)	2	4	6	0.464
Cystic Fibrosis	0	0	0	1.0
Chronic Diarrhea	2	0	2	0.209
Epilepsy	0	2	2	0.209
Inflammatory Bowel Disease	0	0	0	1.0
Milk Protein Allergy	1	1	2	0.923
Average number of ER visitsfor RP	1.20	5.75	3.48	0.028

Table 2: Symptoms at presentation.

	Patients with out MBHD	Patients with MBHD	Total Cohort	P value
Average duration of Prolapse Symptoms at timeof surgical eval (months)	18.69	21.87	20.28	0.355
Average number of bowelmovements per day	1.5	2	1.75	0.1835
Constipation	10	15	25	0.050
Diarrhea	2	5	7	0.137
Incontinence	1	6	7	0.0249
Pain	4	9	13	0.733
Irreducible Prolapse	0	0	0	1.0
Fecal Impaction	0	0	0	1.0

Table 3: Management of Rectal Prolapse.

	Patients with out MBHD	Patients with MBHD	Total Cohort	P value
Medical constipation management	14	15	29	1.0
Pelvic floor / biofeedbacktherapy	2	7	9	0.039
Any surgical intervention	5	9	14	0.096
Average time to surgicalintervention (days)	57	216.13	136.5625	0.046
Sclerotherapy	4	4	8	1.0
Repeat Sclerotherapy	2	2	4	1.0
Operative Intervention (rectopexy or resection)	2	8	10	0.019
Recurrence	0	3	3	0.301

Ultimately, more patients with MBHD underwent operative intervention for rectal prolapse (50%) than those without MBHD (14.2%, $p=0.019$). In the group without MBHD who had surgery, both patients underwent perineal recto sigmoidoscopy (Altemeier procedure). In the MBHD group, 5 transoral mucosal resections and 3 rectopexies were

performed. The median duration of follow-up for those who underwent surgery was 2.66 years. Three patients (37.5%) with MBHD who underwent operative intervention had recurrent rectal prolapse, compared to zero recurrences in the group without MBHD ($p=0.30$). Of these recurrences, 2 had transoral mucosal resections, and 1 had a rectopexy [14,15].

4. Discussion

This retrospective cohort study sheds light on the association between Mental and Behavioral Health Disorders (MBHD) and pediatric rectal prolapse. The findings reveal that children with MBHD presented at an older age had a more extended duration of medical management before the intervention and were more likely to undergo operative intervention despite similar initial rates of sclerotherapy. The study highlights a significant correlation between MBHD and rectal prolapse, emphasizing the importance of considering psychiatric factors in the comprehensive management of these patients [16].

Despite existing literature discussing the association between MBHD and rectal prolapse, this study contributes by utilizing standardized DSM diagnoses for categorizing MBHD. The incorporation of psychiatric medical treatments provides a more nuanced understanding of the interplay between mental health and rectal prolapse. The study raises awareness of the potential constipating effects of psychiatric medications commonly prescribed in this population, urging clinicians to consider the impact on the medical management of rectal prolapse.

The discussion also delves into the possible influence of toileting behaviors, as patients with MBHD may experience difficulties related to inattention, anxiety, or sensory abnormalities. Understanding and addressing these factors are crucial for optimizing the management of rectal prolapse in this population [15]. The study advocates for a comprehensive approach, involving detailed discussions about toileting behaviors and counseling to enhance the overall treatment plan.

The observed disparity in the likelihood of pelvic floor physiotherapy for patients with MBHD prompts reflection on potential biases in decision-making. Implicit biases towards patients with MBHD are acknowledged, suggesting the need for standardized algorithms to mitigate bias and ensure equitable care. Furthermore, the study raises the possibility that patients with concurrent MBHD may exhibit hesitancy towards surgical interventions due to heightened anxiety or difficulties with recovery. This underscores the importance of

providing additional support and addressing psychological factors when considering procedural interventions [16].

The study advocates for a multidisciplinary approach in the treatment of pediatric rectal prolapse, involving specialists in gastroenterology, surgery, psychology, psychiatry, pelvic floor physical therapy, and nutrition. It emphasizes the necessity of family involvement in the treatment process, recognizing the impact of family dynamics on the efficacy of interventions. The findings underscore the need for future research to explore the compounding factors of MBHD in the context of rectal prolapse, providing a foundation for a holistic and tailored treatment approach. However, the study acknowledges its limitations, including small sample size and challenges in diagnosing and documenting MBHD in children. Prospective, multi-institutional studies are suggested to further investigate recurrence rates and complications in this pediatric population.

5. Conclusion

This study concludes that pediatric patients experiencing rectal prolapse demonstrate a significant prevalence of Mental and Behavioral Health Disorders (MBHD) along with the use of associated medications. Despite extended periods of medical management, these patients are predisposed to refractory disease, ultimately necessitating operative intervention. The conclusion advocates for prospective studies focusing on comprehensive treatment protocols encompassing medical, surgical, psychological, and physiotherapeutic approaches. Such research endeavors are crucial for shaping effective and well-rounded therapeutic strategies tailored to the unique needs of children grappling with rectal prolapse.

6. Acknowledgments

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7. Funding

None.

8. Conflicts of Interest

The author declares no conflict of interest regarding the publication of this article.

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