

## Functional Constipation Due to Psychological Trauma: A Case Report with Literature Review

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### ABSTRACT

Constipation is a common disorder worldwide, irrespective of age, sex, socioeconomic status, and ethnic background. Constipation adversely affects quality of life and consumes health system resources. It occurs as congenital disease (Hirschsprung disease) or as a result of secondary causes (bowel obstruction) or as a functional, medically unexplained, cause. Functional constipation (FC), also known as functional megacolon, is constipation that is not of an organic, anatomical, or iatrogenic origin. In this case report, we have searched the literature using functional, psychogenic, megacolon, constipation, functional megacolon, functional constipation as key words without any time limits. Then, titles were screened for inclusion in this paper. The evidence discussing the diagnosis and treatment approaches is bounded with no updated articles could be found. Specifically, Data on FC after a traumatic emotional trigger is scarce, and evidence for treatment approaches is limited. Our patient had fulfilled the criteria of ROME IV to diagnose FC. He has been treated by antidepressant medication and psychotherapy which lead to an increase in the number of times he is using the bathroom and decrease in the time spent in the toilet with better defecation outcome which according to the patient was a significant improvement. Our experience shows that limited data available about this condition although the prevalence of the disorder was constant around the world at a rate of 1% to 30%. The case we report herein adds to the diagnosis and management of FC area of knowledge. And it encourages the scientific community to have a standardized approach to manage the disorder.

**KEY WORDS:** CHILDHOOD PSYCHOLOGICAL TRAUMA; FUNCTIONAL CONSTIPATION; FUNCTIONAL MEGACOLON.

### INTRODUCTION

Constipation adversely affects quality of life and consumes health system resources (Higgins and Johanson, 2004; Dennison et al., 2005). It is a common disorder worldwide, irrespective of age, sex, socioeconomic status, and ethnic background (Benninga et al., 2005; Mugie,

Benninga and Di Lorenzo, 2011). The main features of constipation are a frequency of bowel movement of less than three per week, associated with a change in consistency in the stool and/or pain during the movement, and is usually accompanied by withholding maneuvers in young children (Lacy et al., 2016). Functional constipation (FC), also known as functional megacolon, is constipation that is not of an organic, anatomical, or iatrogenic origin (Hyams et al., 2006). The prevalence rate of functional constipation among children estimated at 0.7% to 29.6% and, in multiple region around the world, the prevalence of constipation rate among adult was reported from 2% to 35% (Van Den Berg, Benninga and Di Lorenzo, 2006; Peppas et al., 2008). Moreover, the prevalence of FC increased with age (Saps et al., 2020).

#### Article Information:

Corresponding author email: [salfakeh@kau.edu.sa](mailto:salfakeh@kau.edu.sa)  
Received 02/10/2020 Accepted after revision 05/12/2020  
P-ISSN: 0974-6455 E-ISSN: 2321-4007  
Thomson Reuters ISI Clarivate Analytics  
Web of Science ESCI Indexed Journal

#### Identifiers & Pagination:

Vol 13(4) E-Pub 31<sup>st</sup> Dec 2020 Pp- 1655-1659  
This is an open access article under Creative Commons  
License Attribution International (CC-BY 4.0)  
Published by Society for Science & Nature India  
DOI: <http://dx.doi.org/10.21786/bbrc/13.4/4>

There's two criteria to assess FC, Rome IV and an updated proposed Cuda criteria (Cuda, Gunnarsson and de Costa, 2018). Moreover, constipation might sometimes lead to encopresis, defined as soiling after the age of 4 years (Loening-Baucke, 1996). Data on FC after a traumatic emotional trigger is scarce, however, and evidence for treatment approaches is limited. Few data and little consensus are available about functional megacolon management. Up to our knowledge, we could only find two case reports discussing the effect of traumatic event on the functional constipation outcome. The case we report herein adds to this area of knowledge. Hopefully, it will lead to a more effective managing approach for people with functional constipation.

**Case Report:** The patient provided consent for publication of the case report.

**Presentation:** A 21-year-old man sought out-patient consultation at our clinic for chronic constipation which prevented him from attending his classes at the university. The patient had previously been admitted at a local tertiary center for urgent bowel evacuation under general anesthesia. His chief complaint at the time of consultation at our clinic was his inability to pass stool, despite normal findings on colonoscopy, colon biopsy (for exclusion of Hirschsprung's Disease), computed tomography (CT), and magnetic resonance imaging (MRI). Abdominal CT performed almost 1 year before his consultation showed a marked dilation of the large bowel loops, mainly the sigmoid and descending colon, containing fecal matter with a maximum diameter of 14.6 cm in the sigmoid colon. The patient did not report associated symptoms, such as pain or bloating, that would be suggestive of a diagnosis of irritable bowel syndrome (IBS). His laboratory investigations were all within normal range.

With regard to his family and social history, he was a first-born child and a brother to four younger sisters. He had no family history of mental disorders. He denied any current or past substance use and reported no comorbid medical illness. On presentation, he was of average body build and was well dressed and appropriately groomed for the visit. During the psychiatric interview, the patient made limited eye contact initially. He was cooperative during the interview and provided relevant coherent answers to each question. There was no evidence of a thought disorder or abnormal perception.

**Relevant past history:** With regard to his past history of constipation, the patient indicated that bowel training was successfully achieved during his childhood, which further excluded the diagnosis of Hirschsprung's Disease. His symptoms began around the age of 6 years. Our patient acknowledged living multiple adverse traumatic childhood events. The psychological trauma was

repetitive, with multiple events each week. Physical confrontations were not uncommon in his household. He had witnessed domestic abuse on multiple occasions and for many years towards his mother. On one occasion, and while he was going to use the bathroom with an urge to defecate, he observed his parents fighting, he went back to his room and according to him, he could never pass stool spontaneously ever since. He reported seeing 'a lot of blood' when he woke up for school the next morning as a result of physical fighting between his parents. One distinctive incident for him was when his mother had sprayed gasoline and threatened the father that she would set fire to the home.

Not being able to defecate has led to soiling of his bed overnight, which occurred once or twice per week. This finding was corroborated by his aunt. He has continued to withhold urges and not to pass stool voluntarily for the past 15 years, to the point of developing abdominal distention. While taking his history, the patient confirmed that he felt an urge to defecate when away from home or when he was in a good mood, but still was unable to have a bowel movement even under these conditions. He first sought medical help for his constipation, with his aunt, at the age of 8 years. At that time, he was treated using laxatives. According to him, this treatment was ineffective; however, he did not return for follow-up over the subsequent 3 years due to his chaotic family situation. He persisted with the use of laxatives up to 2 years prior to the current consultation.

His parents got separated when he was 16-year-old, and he went to live with his aunt at that time. She enabled him to follow-up with medical care, including a thorough investigation of his constipation. Physical examinations and investigations previously performed after encopresis developed were repeated. All results were normal. The patient subsequently presented to psychiatry for assessment. At the first assessment, 4 years prior to the current consultation, the patient was prescribed psychotropic medication for a period of 2 months. According to him, his condition improved, and he felt the urge to evacuate. Unfortunately, his family refused psychiatric medications, probably due to the stigma, and the medication was discontinued, with chronic constipation persisting.

This year, at the age of 21 years, he started to use diapers as a measure to avoid encopresis accidents and allow him to attend university classes. He presented to our service alone and chose to follow-up with psychiatry. At the time of the consult, he was a foundation year student at university and had accumulated multiple course failure over the last year. Along the course of his illness, the patient reported having major depressive episodes and occasional panic attacks. He had sustained a sexual abuse incident at the age of 12 years and reported symptoms

of post-traumatic stress disorder. He had planned suicide during his illness but did not follow through due to his religious beliefs.

**Treatment:** The patient was treated using escitalopram (10 mg, daily) combined with psychotherapy. After three follow-up visits (2 weeks apart), he reported an overall improvement in his psychological well-being. He had developed future plans and was enjoying life more than before. At the fourth visit, the patient was introduced to the biofeedback approach, including an explanation of the elimination process and of the benefit of sitting on a toilet for 10 minutes after each meal.

**Follow-up and outcome:** For the first 6 months after the start of his medication, the patient was very compliant with his daily dosing of escitalopram and showed a good treatment response. He reported improvement in his overall psychological well-beings and was able to attend classes and started to get into a routine. He also reported an improvement in his overall sense of using the toilet, with only mild anxiety. However, the patient missed his 6-month follow-up appointment (4-weeks after the start of biofeedback therapy). Contacted by phone, he confirmed continued progress in the aforementioned improvement. With regard to the biofeedback approach, he had been adherent to the prescribed sitting on the toilet for 10 min after each meal, reporting that he had the feeling of passing stool after the third trial.

However, he did not proceed as he was afraid of painful defecation. As he had missed his follow-up appointment, he ran out of antidepressant medication. Family opposition to use of psychotropic medications made him unable to refill his prescription. Moreover, as his family chaos was persisting, he reported a major depressive episode. He was still using diapers and was missing numerous classes. He did return for follow-up and has been taking escitalopram for two months, reporting that he is doing very well, without side effects. He is able to use the washroom 4-5 times per week. He reported spending 4 minutes in average on toilet. Although most of the defecation attempts fail and occasionally successful defecations were incomplete, he was satisfied. He is now aware of the effect of being anxious and how his mood increasing the tension in the pelvic floor muscles. These outcomes can be compared to the pre-treatment data where the patient was never using the toilet.

## DISCUSSION

In a systematic review, the mean prevalence of FC was reported between 0.7% to 29.6% with a median of 8.9% of children, with a conflicting data about the gender ratio. However, the majority of the reviewed articles reported a female predominance in the prevalence of

constipation (Van Den Berg, Benninga and Di Lorenzo, 2006; Cuda, Gunnarsson and de Costa, 2018).<sup>3</sup> The prevalence rate was almost duplicated in another systematic review in 2018 (Koppen et al., 2018). Carson et al has reported that among neurology outpatient visitors complaining of constipation, FC was more prevalent than organic constipation (Carson et al., 2014). The prevalence rate of FC seems to be increased with age (Saps et al., 2020).

Of all reported cases of FC, however, we identified only one case linking psychological trauma to the development of FC, and another reported an exacerbation of FC symptoms following a psychological trauma (Brody, 1963; McGuire, Rothernbergh and Tyler, 1983). I quote from Brody, 1963 the following: "Nina had reacted with psychogenic withdrawal and an exacerbation of an earlier pattern of soiling and bowel retention". Up to our knowledge, no recent study could be found in the literature linking the psychological wellbeing of the patient with the emergent of the symptoms. However, psychological wellbeing was shown to be affected by FC (Vriesman et al., 2019).

Table 1. ROME IV criteria adopted from the study published by (Lacy et al., 2016)

Diagnostic criteria <sup>a</sup> for functional constipation
1- Must include 2 or more of the following: <sup>b</sup>
a. Straining during more than one-fourth (25%) of the defecation events.
b. Lumpy or hard stools (BSFS 1-2) in more than one-fourth (25%) of the defecation events.
c. Sensation of incomplete evacuation in more than one-fourth (25%) of the defecation events.
d. Sensation of anorectal obstruction/blockage in more than one-fourth (25%) of the defecation events.
e. Manual maneuvers to facilitate more than one-fourth (25%) of the defecation events (e.g., digital evacuation, support of the pelvic floor).
f. Fewer than 3 spontaneous bowel movements per week.
2- Loose stools are rarely passed without the use of laxatives.
3- Insufficient criteria for irritable bowel syndrome
a Criteria fulfilled for the last 3 months, with symptom onset at least 6 months prior to diagnosis.
b For research studies, patients meeting the criteria for opioid-induced constipation should not be diagnosed with functional constipation (FC) as these two conditions may overlap. Clinicians should be aware of the possibility of this overlap.

Treating patients presenting with FC as a case of Irritable Bowel Syndrome (IBS) is not uncommon (Tosto et al., 2020). Interestingly, IBS has been proposed to be classified as a medically unexplained or functional disorder (Wessely, Nimnuan and Sharpe, 1999). However, the diagnostic criteria of FC remain obscure. We could find two criteria ROME IV (Lacy and Patel, 2017) and a proposed newer criteria suggested by Cuda (Cuda, Gunnarsson and de Costa, 2018) to assess the diagnosis. According to ROME IV criteria, FC is primarily differentiated from IBS by the relief of abdominal pain after defecation(see table 1 )(Lacy and Patel, 2017).

In our patient, abdominal pain or bloating were not predominant symptoms. Additionally, he complained of abdominal distention related to constipation, rather than a sense of bloating which is usually a feature of IBS Rome criteria and a diagnostic approach to irritable bowel syndrome(Lacy and Patel, 2017), and repeated incidences of soiling and fecal incontinence due to the stool impaction that affected his quality of life. However, although IBS was excluded, he has been treated as a case of IBS during the 15 years of suffering. Treatment used for IBS, such as the use of laxatives or enemas (Dalrymple and Bullock, 2008), were not effective on the long-term as it occasionally provided a symptomatic relief . Psychological stress might cause an exacerbation in IBS symptoms (Qin et al., 2014). Similarly, to FC, different studies reported an increase in psychological distress and decreased well-being with FC, as previously reported in functional neurological disorders (Merkel et al., 1993; Glia and Lindberg, 1997; Keynejad et al., 2018).

Another resemblance between functional neurological disorder (i.e. medically unexplained symptoms) and FC is the predominance of female to male patients(Higgins and Johanson, 2004; Carson and Lehn, 2016). Childhood adversity, like in this case, is a well-recognized risk factor for the development of functional neurological symptoms (Katon, Sullivan and Walker, 2001). The diagnostic criteria for FC have been presented by Hyams and his colleagues with the ROME IV criteria widely accepted (Hyams et al., 2016). Our patient did, however, fulfill the ROME IV criteria of FC. The aforementioned management plan that was used for our patient was similar to the approaches used for functional neurological symptoms has yield to a significant improvement (Wessely, Nimnuan and Sharpe, 1999; Stone, Carson and Sharpe, 2005; Carson et al., 2014).

## CONCLUSION

Previous cases have reported psychological trauma as a contributing factor to functional megacolon. Further accumulation of cases is warranted to determine the appropriate treatment approach to improve the physical health, and psychological well-being of patients with

FC. Functional constipation might be considered as a specifier in the Diagnostic and Statistical Manual of Mental Disorders (DSM) for the functional neurological symptoms, along with sensory and motor specifier that are already included. This, as well, may shed light on the importance of evaluating psychological trauma in any individual presenting with FC. We recognize the limitation of a case report in the hierarchy of evidence and there might be a recall bias. Therefore, we recommend a population-based study to determine the prevalence of chronic constipation in children and adults and to determine associated factors to inform treatment.

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