

Functional constipation in children; changing clinical spectrum with unusual presentation: A case report

Laxmi Kant Bharti¹, Basant Kumar²

From ¹Additional Professor, ²Pediatric Gastroenterology, Department of Pediatric Surgery, Sanjay Gandhi Postgraduate Institute of Medical Sciences, Lucknow, Uttar Pradesh, India

Correspondence to: Dr. Laxmi Kant Bharti, Department of Pediatric Surgery, Sanjay Gandhi Postgraduate Institute of Medical Sciences, Lucknow - 226014, Uttar Pradesh, India. E-mail: lkbharti@gmail.com

Received - 07 March 2019

Initial Review - 23 March 2019

Accepted - 13 April 2019

ABSTRACT

Constipation in children is progressively increasing day by day because of changing lifestyle and dietary intake. Sometimes, functional constipation cases are misdiagnosed as functional abdominal pain because of inappropriate history and examination. We present an 8-years-old boy with a history of intermittent moderate to severe abdominal pain for 2 months. Basic blood investigations and ultrasound of the abdomen were normal, surprisingly, X-ray of the abdomen revealed the diagnosis. Simple X-ray erect abdomen is very useful in a special situation for the diagnosis of functional constipation.

Keywords: Children, functional constipation, pain abdomen, X-Ray.

Constipation is a common problem worldwide. Data suggest that it accounts for 3% of a pediatrician's outpatient clinic and up to 30% of a visit to a pediatric gastroenterologist in developed countries are diagnosed with constipation [1]. Various studies show a prevalence of constipation from 0.7 to 29.3% across the world, indicating huge heterogeneity [2]. Longitudinal data from the United States demonstrated nearly 4 fold rise in rates of constipation during the last decade and the majority of ambulatory care visits for constipation were in children under 15 years [3]. In recent years, because of some known and unknown reasons an increase in the proportion of constipation in children is observed [3].

Most pediatricians consider constipation as a symptom rather than the disease [3]. There is a wide variation in stool frequency worldwide because of different dietary habits and lifestyle pattern. Apart from non-vegetarian and vegetarian food habits, different food cultures across states of the country, and within the country is seen because of variation in cultural patterns across the nation, in India [4, 5]. Due to this diversity in dietary habits and changing lifestyle patterns, because of changing family patterns and changing cultural aspects and diversity in stool pattern habit, ROME-IV criteria are being used for defining functional constipation [6].

As per ROME-IV criteria, it is defined as the presence of two or more of the following in absence of any organic pathology and the duration should be at least one month in <4 years of age, and at least once per week for at least 2 months in ≥ 4 years of age: (i) Two or less defecations per week (ii) At least one episode of fecal incontinence per week (iii) History of retentive posture or stool withholding maneuver (iv) History of painful or hard

bowel movement (v) Presence of large fecal mass in the rectum (vi) History of large-diameter stools that may obstruct the toilet. In children <4 years of age, the history of retentive posture or stool withholding maneuver, is being replaced by the history of excessive stool retention as retentive posture is difficult to assess in younger children [6, 7]. The above mentioned classical symptoms of functional constipation may be difficult to elicit some times. Also, sometimes the presentation can be unusual hence, we are reporting an atypical case of functional constipation presenting with pain in the abdomen.

CASE PRESENTATION

An 8-year-old boy presented with a history of abdominal pain for two months. The pain was periumbilical, noncolicky, moderate to severe in nature, intermittent with a wide variation of duration from 15 minutes to sometimes 4-5 hours. In the daytime, the pain experienced was for a lesser duration of time while it was more severe and for a prolonged duration, in the nighttime. Many times, the pain was severe enough to cause a disturbance in sleep. Even usual analgesic like paracetamol and ibuprofen were not useful in subsiding pain. The child was irregular in attending school for the last two months. He was admitted to a local hospital for a period of 2-5 with a frequency of 2-3 times, in the last 2 months. During the hospital stay, he received intravenous (IV) fluid and injectable analgesic (diclofenac) to relieve the pain, but there was only transient relief.

There was no history of abdominal distension, bilious vomiting, diarrhea, weight loss, anorexia, and fever. On repeated leading questions, parents came with a history of withholding



Figure 1: X-ray Abdomen AP view showing fecoliths

posturing, infrequent hard stool and prolonged sitting on the toilet, suggestive of functional constipation. These symptoms of functional constipation were present since 2 years of age; he was fed with predominant milk and was not still toilet trained when he started showing symptoms.

In his last admission i.e. 7 days prior to coming to our hospital, the child underwent many blood investigations, serum amylase, serum lipase, C-reactive protein (CRP), erythrocyte sedimentation rate (ESR), stool and urine microscopy with ultrasound of the abdomen, which came out to be normal. Physical examination revealed normal growth; no anemia, icterus, organomegaly or lymphadenopathy, was observed and the blood pressure was within normal limits.

Abdominal examination revealed a soft abdomen with palpable hard fecoliths. Perianal examination showed an anal fissure in 6 'O' clock position which revealed that the child was very anxious and afraid and didn't allow digital rectal examination. To confirm the abdominal examination findings, we did X-ray erect abdomen anteroposterior view from the out patient's clinic, which revealed distended colon with fecoliths (Fig. 1). Routine investigation for chronic abdominal pain and constipation including hemogram, thyroid profile and anti-tissue trans-glutaminase (ttg) were normal.

We followed our center protocol for management of functional constipation. We give polyethylene glycol (PEG) solution for colonic lavage in inpatients setting at the rate of 25 mL/kg/h, oral or nasogastric tube, in young children. The endpoint of disimpaction is clear rectal effluent [5]. In our report, disimpaction was done successfully after 24 hours of admission. The child was advised to continue high fiber diet, toilet training and maintenance dose of PEG. After 1 week of disimpaction, the abdominal pain has subsided. The child is been followed-up for 3 months and is doing well, no recurrence of constipation and pain in the abdomen.

DISCUSSION

Constipation is a common co-morbidity in children. A recent epidemiological study from Sri Lanka reported 10.4% of

children and adolescents with constipation [8]. Common clinical symptoms of constipation in children are passing hard and/or painful stools, reduced stool frequency. The other symptoms include fecal soiling, the passage of large volume stools, painful defecation, and characteristic "retentive posturing." Straining at defecation, abdominal pain, anorexia, vomiting and bleeding per rectum are other associated features [4-6]. Abdominal pain is functional constipation and not a predominant symptom but it can occur due to a massively long-standing distended colon.

An Indian study by Bansal et al [4] reported abdominal pain in 16% of children with functional constipation and mainly in older children. In our case, the main presenting and dominating feature was significant abdominal pain requiring analgesics with only partial response, especially, in the late stage of illness. It is seen that younger children try to avoid defecation, whenever they feel the urge for defecation because of fear of pain. The children usually do withholding posturing when feel urge to defecate but parents mistaken as straining.

Many parents and children also don't come out with a history of straining and prolong defecation, this feature is a very common presenting clinical symptoms. This may be because the child may be afraid of the social stigma. Rectal examination is very important and to be done in all cases [1, 9, 10]. Sometimes children do not allow doing per rectal examination because of pain and discomfort so x-ray of the erect abdomen is performed to confirm loaded colon with stool can be helpful.

It is very interesting to report that simple X-ray of the abdomen is very helpful in diagnosing functional constipation particularly when the child didn't allow rectal examination due to the fissure. Many times child with constipation, fears for rectal examination and will not give consent for it. In these cases again the X-ray abdomen becomes very important and helpful in the diagnosis of functional constipation if there is a clue of fecoliths on abdominal examination. The child has shown complete resolution of pain after disimpaction. This is an effective way of treating long-standing constipation when maintenance therapy is failed. Our data showed disimpaction followed by maintenance therapy of PEG is effective in almost 80 % of cases [1, 5].

CONCLUSION

Functional constipation is common in the pediatric population and there are rare cases wherein the abdominal pain can be presenting symptom. Focused history and examination are important for correct diagnosis. X-ray of the abdomen can be helpful in selected situations.

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Funding: None; Conflict of Interest: None Stated.

How to cite this article: Bharti LK, Kumar B. Functional constipation in children; changing clinical spectrum with unusual presentation: A case report. *Indian J Case Reports*. 2019;5(2):184-186.

Doi: 10.32677/IJCR.2019.v05.i02.030