

Chronic Constipation in Children in the Eastern Province

Mohamed I. El Mouzan

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قدم ٤٢ طفلاً في فترة خمس سنوات بشكوى الإمساك المزمن. كانت غالبية المرضى (٩٠٪) من السعوديين وكانت نسبة الذكور إلى الإناث ١,٦. بدأ هذا العرض في السنة الأولى من العمر عند ٨٦٪ من المرضى وتراوح بين شهر إلى ٧ سنوات. كان الإمساك الوظيفي هو التشخيص الأكثر شيوعاً ٦٤٪ ثم انعدام الخلايا العقدية للمقولون فتضيق الشرج الولادي والانتباز الشرجي. لم تكن حقنة الباربيوم مفيدة في تقصي انعدام الخلايا العقدية. كانت نتائج المعالجة ممتازة في تسعة مرضى (٢١,٤٪)، وجيدة عند ٢١ مريضاً (٥٠٪) ودرئبة في ستة مرضى (١٤,٣٪) كما تخلف ستة مرضى (١٤,٣٪) عن مواعيد المتابعة. تشدد هذه الدراسة على الحاجة لإجراء دراسات ترقبية أخرى لجميع مظاهر الإمساك المزمن في الطفولة.

This paper reports on 42 children presenting with chronic constipation during a 5-year period. The majority of the patients (90%) were Saudi nationals, and the male-to-female ratio was 1.6 to 1. This symptom started in the first year of life in 86% of the patients, and the duration ranged from 1 month to 7 years. Functional constipation was the most common diagnosis (64%), followed by aganglionosis of the colon, congenital anal stenosis and anal ectopia. Barium enema was not found helpful in screening for aganglionosis. The results of treatment were excellent in nine patients (21.4%), good in 21 (50%), poor in six (14.3%), and six patients (14.3%) were lost to follow-up. This report emphasizes the need for further prospective studies of all aspects of chronic constipation in childhood.

Chronic constipation, defined as the infrequent passage of hard stools, is a common complaint in infants and children.^{1,2} Beyond the early neonatal period, only a small number of cases are related to organic disorders such as aganglionosis (Hirschsprung's disease), anal ectopia or stenosis, anal fissure, spina bifida, hypothyroidism, diabetes insipidus, renal tubular acidosis and disorders of calcium metabolism; whereas the large majority of children with chronic constipation have the idiopathic or functional form when no organic disorder is demonstrated. In the latter group, the interaction of dietary, emotional and environmental factors as well as coercive toilet training have been implicated in the genesis and perpetuation of chronic

constipation.² More recently, other causes of chronic constipation have been proposed, including impaired rectal sensation,³⁻⁵ decreased ability of the internal anal sphincter to relax completely during rectal distention,^{6,7} and active contraction of the anal sphincter during defaecation attempts.⁸ Studies from Western countries indicate that chronic constipation is a frequent and distressing complaint in childhood;^{9,10} the general impression of physicians practising in this country is similar. However, to the author's knowledge, no studies have been reported on childhood constipation in Saudi Arabia. The objective of this report is to describe our experience in the investigation and management of children presenting with chronic constipation.

Patients and Methods

This study is based on a retrospective review of the medical records of all children who were referred to King Fahd Hospital of the University in Al Khobar with the chief complaint of chronic constipation. Patients were referred from other hospitals in the eastern province to the paediatric gastroenterology clinic or to the paediatric surgical clinic where investigations, management and follow-up were coordinated. All patients were examined

College of Medicine and Medical Sciences, King Faisal University & King Fahd Hospital of the University, PO Box 40026, Al Khobar 31952, Saudi Arabia
MOHAMED ISSA EL MOUZAN MD FAAP, Associate Professor of Paediatrics

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by a paediatric or surgical consultant, or both. In addition to a detailed history and physical examination, the available investigations included routine clinical chemistry, thyroid function tests, barium enema, rectosigmoidoscopy, rectal biopsy and histopathology; whereas motility and sensitivity studies of the colon were not available. The medical records of all patients were reviewed and information on the age, sex, nationality, age at onset and duration of constipation, investigations, diagnosis, treatment and results were recorded for each patient.

Results

From January 1984 to December 1988, 42 patients with the chief complaint of chronic constipation were referred to the paediatric gastroenterology clinic for evaluation. Patients with known disorders, of which constipation was not the initial presenting symptom, were excluded from analysis. This includes a group of children with recurrent constipation who have mental retardation, anorectal agenesis and Hirschsprung's disease diagnosed in the neonatal period and treated surgically. Of the 42 patients presenting with chronic constipation, there were 26 males and 16 females (ratio 1.6 to 1). Thirty-eight patients (90%) were Saudi nationals and two patients were Sudanese, one was Egyptian, and one was Syrian. The age of onset according to the parents was from birth to 9 years, with 86% of the children presenting in the first year of life. The duration of constipation ranged from 1 month to 7 years. The stools were described as hard, bulky or pellet-like. All patients had been seen elsewhere before referral and were dependent on laxatives, enemas, suppositories and stool softeners to produce bowel evacuation. Faecal soiling was found in 12 patients (29%). The recorded details of social background, dietary habits and behaviour, and toilet training were insufficient for analysis.

Thyroid function tests were performed in 14 patients and were normal. All cases of aganglionosis were confirmed by full-thickness surgical rectal biopsy, whereas anal ectopia (anterior displacement), stenosis and fissures were diagnosed by physical examination. Barium enema studies with postevacuation films were performed without preparation in 17 patients with functional constipation and in all patients with aganglionosis. In patients with functional constipation, the barium study was normal in ten (59%), whereas in the remaining seven patients (41%), it was suggestive of aganglionosis which was excluded by rectal biopsy. However, of the five patients with a confirmed diagnosis of aganglionosis, two had normal barium studies. These cases included two patients with frank aganglionosis and three patients with short-segment aganglionosis.

Functional constipation was the most common diagnosis (64%), followed by aganglionosis and congenital anal stenosis in 12% and 10% of the patients, respectively (Table 1). Management consisted of (1) initial cleaning of the bowel with sufficient doses of lubricant, laxatives or enemas; (2) dietary counselling appropriate for age and prescription of stool softeners; (3) gradual weaning from laxatives, lubricants and enemas; (4) specific treatment for organic disorders; (5) regular follow-up visits. All patients were treated on an out-patient basis initially, but some patients required hospital admission for investigation and treatment. The results of treatment are depicted in Table 2. Excellent results, defined as the passage of soft

Table 1
Aetiologic diagnoses in 42 children presenting with chronic constipation

Diagnosis	Patients (%)
Functional	27 (64)
Aganglionosis of the colon	5 (12)
Congenital anal stenosis	4 (10)
Anterior displacement of anus (ectopia)	3 (7)
Anal fissure	2 (5)
Diabetes insipidus	1 (2)
TOTAL	42 (100%)

Table 2
Results of treatment according to the cause of constipation in 42 children

Diagnosis	Excellent no. (%)	Good no. (%)	Poor no. (%)	No follow-up no. (%)
Functional	5 (18.5)	12 (44.5)	5 (18.5)	5 (18.5)
Aganglionosis	—	3	1	1
Congenital anal stenosis	2	2	—	—
Anal ectopia	2	1	—	—
Anal fissures	—	2	—	—
Diabetes insipidus	—	1	—	—
TOTAL	9 (21.4)	21 (50)	6 (14.3)	6 (14.3)

stools without therapy other than occasional use of stool softeners, occurred in nine patients (21.4%). Good results, defined as improvement in bowel habit with frequent use of stool softeners and occasional use of suppositories, were seen in 21 patients (50%). Six patients (14.3%) did not improve at all, and another six (14.3%) were lost to follow-up before the effect of treatment could be determined.

Discussion

The pattern of chronic constipation in this report is similar to that described in the literature. The predominance of presentation in infancy, the more common occurrence in males, the proportion of associated faecal soiling and the types of diagnoses are consistent with the experience of others in Western countries. However, functional constipation was diagnosed in only 64% of the cases and congenital disorders were more common in this study, contrasting with the more common occurrence of functional constipation and the rarity of congenital disorders presenting with constipation in previously published series of children.^{1,2} This finding could be explained by the fact that our sample is relatively select and composed predominantly of children with severe constipation. Alternatively, the higher proportion of patients with congenital gastrointestinal abnormalities may reflect

the reported generally high incidence of congenital anomalies in Saudi Arabia.¹¹ In addition, the lack of documentation of other known causes of constipation such as hypothyroidism, hypercalcemia, renal tubular acidosis or neurological defects may be due to either the relatively small number of patients, or to the possibility that these disorders rarely present with isolated constipation.

The finding that barium enema examination suggested aganglionosis in 41% of the cases of functional constipation, and the fact that this study was normal in two of five patients (40%) with confirmed diagnosis of aganglionosis suggest that barium enema studies are neither specific nor sensitive for the detection of aganglionosis in children with chronic constipation. However, the number of our patients is too small for definitive conclusions and further studies are needed to confirm our finding and those of others on the lack of usefulness of barium studies for the detection of aganglionosis in children with constipation.¹² The finding of excellent to good results in 71% of the patients with all diagnoses and in 63% of the children with functional constipation is similar to the results of others. However, these figures are still unsatisfactory, especially in the area of functional constipation. The difficulties in management of severe chronic constipation in children are well known to all physicians and investigators.¹³⁻¹⁵

It is concluded that the pattern of chronic constipation in Saudi children is quite similar to that in other populations. The problems in diagnosis and management are also similar. However, further studies involving a larger, less select population, in order to define the incidence of chronic constipation in children, are needed. In addition, in view of the demonstration that children with chronic constipation commonly have functional abnormalities of the large bowel,^{6,16} and in view of the usefulness of motility studies in the investigation and follow-up of children with chronic constipation,⁵ manometry and sensitivity studies should be made available to assist physicians in the management of this condition.

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