

Clinical and Anorectal Motility Features in Chronically Constipated Children

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ABSTRACT

Constipation is a common problem in children. It can be a symptom of functional disorder in majority of cases, but sometimes a serious organic disease is a cause of constipation. Anorectal manometry plays an important role in the diagnostic procedure. It can be presumed that some values of manometric parameters could be very useful in treatment plan. The aim of this study was to confirm or exclude such limits in manometric finding, to make a plan of the therapy more accurate. Therefore the group of 81 constipated children was investigated. There were 58 patients suffering from functional constipation and 23 with organic disorders. The age of the patients was 3 to 15 years. Scoring system was applied to estimate severity of constipation and anorectal manometry was performed. Our results did not show significant correlation between clinical symptoms and signs and the values that we obtained using anorectal manometry. But, we recommend anorectal manometry because it is a safe method and contributes to clarify the diagnosis, which is very important for treatment plan.

Key words: constipation, anorectal manometry, children

Introduction

Defecation disorders are common in children. It can be a symptom of functional disorder in majority of cases, but sometimes a serious organic disease is a cause of constipation. The mechanisms of normal defecation and continence are the result of interactions between intestinal motility, content consistency, rectal sensitivity and extensibility and the anatomical structures responsible for continence so the frequency of defecation disorders is not surprising. Constipation is a symptom that is defined in difficulties in bowel evacuation followed by a subjective sensation of hard stools, usually with a sense of incomplete rectal emptying. In order to diagnose constipation in a child, two of four criteria have to be met: less than two (or three) evacuations of feces a week, the occur-

rence of encopresis more than twice a week, periodically evacuating large quantities of feces (every seven to thirty days) and palpable abdominal or rectal mass. When the symptoms are present throughout one year more than twelve weeks during which the episodes do not necessarily have to be consecutive, we are talking about functional constipation.

Constipation is the reason for 3% of outpatient pediatric examinations and 25% of examinations of pediatric gastroenterologists¹⁻³. Some of these children do not suffer from constipation because their parents sometimes overestimate child's symptoms and the problem is the fact that the definition of constipation is not unambigu-

ous. Encopresis is defined as an accidental evacuation of formed, semi-liquid or liquid stools in underwear of a child who is older than four years and who should have established control over defecation on the condition that the cause of this phenomenon is not an organic disorder^{4,5}. Unlike encopresis, incontinence is a result of organic or anatomical disorders such as congenital anorectal anomalies, conditions after surgery or injury of anorectal areas, muscle disease or damage to the spinal cord that can be found in myelomeningocele or in the tumorous diseases. Soiling is defined as a loss of stool in small quantities in underwear, no matter whether it is a functional disorder (encopresis), or organic disorder (incontinence)^{2,4-7}.

Constipation can be caused by various abnormalities of the anus, rectum and colon, damage to the spinal cord, disorders of intestinal nervous system, muscle and connective tissue structures, systemic diseases, adverse drug effects^{8,9} and other causes (i.e. celiac disease^{10,11}, cystic fibrosis, lead poisoning¹², allergies to cow's milk). When the disorder can not be explained by anatomical, physiological, radiological or histopathological abnormalities, we use a term idiopathic constipation. The cause of constipation in children is usually of functional nature, in 90–95% of constipated². Functional constipation is an intestinal motility disorder and is diagnosed when there is no structural or biochemical abnormality.

There are two types of functional constipation: constipation due to slow transit through the bowel (slow transit constipation) and constipation due to obstruction of the terminal bowel (outlet obstruction). The first is a consequence of colonic motility disorders, and other is a result of uncoordinated pelvic floor muscles activities. The clinical feature depends on the cause of constipation and age. In principle, the most serious clinical features are associated with severe abnormalities or disorders of intestinal innervation and those conditions are manifested earlier. For the evaluation of the severity of clinical feature, specific questionnaires are used to assess whether the patients should carry out additional functional tests, as well as for treatment effect estimation¹³⁻¹⁶. It is known that there is a wide range between organic and functional disorders and some cases often remain unrecognized and neglected, which can leave long-lasting consequences. For treatment planning it is very important to identify and to assess the nature of the disorder as early as possible. Concerning diagnostic procedure, anorectal manometry takes the leading role. Anorectal manometry is non invasive method, requires no special preparation, the results are reproducible and reliable and allows us to distinguish symptoms that are the functional nature from those that are the consequence of intestinal innervation disorders. Indications for anorectal manometry are: interpretation of constipation, planning the incontinence treatment, locating and determining the degree of sphincter damage after injury and determining the level of sphincter function before surgery that could affect continence or implies the existence of good continence, such for ileo-anal anastomosis planning¹⁷⁻²⁰.

The purpose of this research is to contribute to the knowledge of constipation in children and to investigate the clinical features and methods of assessment in children with different causes of constipation, as well as diagnostic procedures, primarily anorectal manometry, to determine the values of measured parameters and to evaluate the correlation between clinical and manometric findings, which can be used in making treatment decisions.

Patients and Methods

Our study included children presenting chronic constipation in the »Outpatient clinic for children with functional disorders of the digestive system« in Clinic Department of Pediatrics, Zagreb University Hospital Center from the beginning of 2000 till the end of 2003. There were 32 females and 49 males with an age ranging from 3–15 years. All children were suffering from constipation. In the most cases, the symptom was prolonged interval between defecations. In other cases, the symptom was difficult and painful defecation with the need for laxatives. Some children needed provocation of defecation and the other children had occasional evacuations of a large amount of stool or inadvertent loss of stool in underwear.

In 58 patients we recognized the functional disorder, from which 21 patients had constipation without encopresis, and 37 patients had constipation with encopresis. Twenty-three (23) children had anatomical or neurological disorder, which was surgically corrected by the time of testing. Five patients previously had surgical treatment of Hirschsprung disease, 7 patients were treated for correction of anorectal malformations, 7 patients had surgical treatment of myelomeningocele, 3 patients were surgically treated for tumors of the spinal cord and one girl had surgical treatment of bladder extrophy. Duration of defecations difficulties ranged from 2 months to 11 years and 5 months.

A detailed medical history was taken for each child. At the beginning, a complete family history, which included data on the mother's pregnancy, birth, the perinatal period with special emphasis on events related to child nutrition, was taken from their parents. Furthermore, special attention was paid to all the circumstances during the period of getting used to defecation in the bowl, as well as the circumstances that might affect the child's behavior (i.e., birth of a younger sibling, moving, going to kindergarten or school, traveling, death of a loved one, parents' divorce, etc.). Any information related to the defecation was scored in order to evaluate the severity of clinical feature. The presence of defecation difficulties was graded from 0 to 4 points. Encopresis was graded from 0 to 4 points. Occasionally evacuations of a large amount of stool were graded from 0 to 2 points.

The complete physical examination was performed with specific attention to abdomen, perineum, anus and sacrococcygeal area. Digital rectal examination was performed to assess anal sphincter tone, rectal ampulla diameter and the presence of feces or other resistance in the rectum. Scoring system is explained in Tables 4 and 5.

The participants underwent anorectal manometry on Griffon device in the »Sveti Duh« University Hospital, Referral Centre of Croatian Ministry of Health for functional gastrointestinal disorders. Before performing the test all the procedure was explained to patients and their parents in detail. Informed consent was obtained from the parents. Two hours before measurement, each patient received an enema of Saline solution, 10 mL/kg, to keep the rectum empty during measurement. During the procedure, a child is lying on its right side and is able to see deviations during pressure changes, which contributes to better patients' cooperation. The anorectal measurements included: maximum anal resting pressure, functional anal canal length, maximum squeeze pressure at voluntary contraction, than the first rectal sensation by gradually inflating the rectal balloon, provocation of rectoanal inhibitory reflex by rapid inflating the rectal balloon and finally, maximum tolerable volume (before the uncomfortable feeling or before the urge to dispose the balloon), that gives informations of the rectum capacity. The anorectal manometry device is connected to a computer with specific software for reproducing and analyzing data²¹. For statistical analysis we used Statistica software. Parametric and nonparametric methods were applied because these methods were appropriate to the data. For dependent samples Sign test and T test were used and for independent Mann-Whitney test. We also applied the coefficient of correlation and linear regression.

Results

According to our findings, 58 of 81 patients were suffering from functional constipation, as is presented in table 1. Concerning the frequency of diagnoses by the gender, there were more boys in the group of patients who suffered from chronic constipation with encopresis – 25 boys to 12 girls (Table 1). The age ranged from 3 years (36 months) to 15 years (180 months). The most children were 3–6 years old (12 patients aged 3–4 years, 10 patients aged 4–5 years, 13 patients aged 5–6 years). There were 35 patients who were between 3–6 years old. Patients aged from 6–12 years were less represented and in this range of 6 years there were 35 patients (Table 2). The period of symptoms is from 2 months to 144 months (12 years). The median was 36 months (3 years). In 50 patients, the period of symptoms lasted up to 3 years (36

TABLE 1
DISTRIBUTION OF PATIENTS ACCORDING TO SEX AND DIAGNOSIS

Diagnosis	Boys	Girls	Total
Opstipation	11	10	21
Opstipation with encopresis	25	12	37
Hirschsprung's disease	3	2	5
anorectal anomalies	4	3	7
Spina bifida	4	3	7
Spinal cord tumors	2	1	3
Bladder exstrophy	0	1	1

months). There were few patients that came after even longer period of symptoms (Table 3). There were two groups of variables for each patient: the scores that assess severity on the basis of medical history with physical examination and the values that we obtained by anorectal manometry. Table 4 shows the frequency of patients due to clinical symptoms based on the medical history data. There were 34 children suffering from encopresis, which occurred several times a day and that condition was rated with 4 points. The median of the period of symptoms in these children was 36 months, range 2–137 months (Table 4). Table 5 shows the variables related to physical examination findings. The statistical parameters of the variables related to the manometric findings are shown in the Table 6 which includes the following: functional anal canal length, maximum anal pressure at rest, squeeze pressure, the perception level, the volume at which occurs a feeling of fullness, the level and the amplitude for rectoanal inhibitory reflex. Resting pressure and the maximum squeeze pressure in patients with functional constipation were considered separately (Table 7) shows the correlation between clinical parameters. The relationship between clinical parameters and manometric values is shown in Table 8.

Discussion and Conclusion

Our findings show that the most children from entire group suffer from functional constipation, even though diagnosis was not an important factor during selection.

In 1993 Loening-Baucke found anorectal functional disorder as the cause of constipation in about 95% of

TABLE 2
DISTRIBUTION OF PATIENTS ACCORDING TO AGE

Age/months	36–48	49–60	61–72	73–84	85–96	97–108	109–120	121–132	133–144	145–156	157–168	169–180
Patients	12	10	13	5	7	7	7	6	3	2	3	6

TABLE 3
DISTRIBUTION OF PATIENTS ACCORDING TO SYMPTOMS DURATION

Duration/months	0–12	13–24	25–36	37–48	49–60	61–72	73–84	85–96	97–108	109–120	121–132	133–144
Patients	12	22	16	9	9	1	2	0	5	2	1	2

TABLE 4
DISTRIBUTION OF PATIENTS ACCORDING TO CLINICAL SYMPTOMS

Clinical symptoms	Number of patients for each point					Total
	0	1	2	3	4	
The number of defecation per week	22	32	19	8	–	81
Difficult defecation per week*	43	25	9	0	4	81
Use of laxatives	27	25	6	23	–	81
The need for defecations provoked	37	26	11	5	2	81
Encopresis**	29	4	9	5	34	81
Periodically evacuating large quantities of feces***	32	44	5	–	–	81

*The presence of difficult defecation- zero points given for the defecation, which was never difficult. Rare: less than a quarter of defecations, has been rated with one point. Occasionally: less than half of defecations, rated with 2 points. Often: more than half of defecations, rated with 3 points. Four points for defecations, that are always difficult.

**Encopresis- No encopresis: 0 points. Occasionally observed: 1 point. More than once a week: 2 points. If it appears every day, score is 3 points. If it is present several times a day: 4 points.

***Periodically evacuating large quantities of feces- If the patient in the last 2 months had no cases of evacuating large quantities of feces, it is evaluated as 0 points. If it occurred 1 to 3 times: 1 point. If it occurred more than 3 times: 2 points.

children². At the beginning of our survey there were even more children with functional constipation. However, significant number of these patients dropped out of follow-up, usually after the first signs of improvement. This phenomenon can be explained by the fact that the parents of children with organic causes of constipation are more motivated to continue treatment. Considering the frequency of particular diagnoses by gender, we noticed significantly more boys in the group of patients who suffer from chronic constipation with encopresis. Epidemiological analyses of encopresis frequently show the significant predominance of boys^{22,23}. Considering the frequency of patients by age, the most children are aged 3–6 and this is the period in which the exacerbation of symptoms is often presented as a part of process of getting used to defecation in the bowl, often accompanied with resistance and fear of defecation, as it was noticed by numerous authors²⁴. The children who were operated for anorectal malformations have fewer symptoms in adolescence, as it was described by Rintala et al.²⁵. Our group also had fewer children older than 6 years. Among our patients there were 34 children with encopresis, which occurred several times a day and was rated with 4 points. The median of the period of symptoms in these children was 36 months. Considering the fact that among patients whose symptoms lasted less than 3 years are the majority who went to pediatric gastroenterologist for the first time, we can conclude that their parents do not react

TABLE 5
DISTRIBUTION OF PATIENTS ACCORDING TO PHYSICAL EXAMINATION

	Number of patients for each point				
	0	1	2	3	total
Abdominal palpatory finding*	56	6	14	5	81
Digital rectal examination**	2	13	34	32	81

*Abdominal palpatory finding- normal: 0 points; little scybala: 1 point; bigger scybala: 2 points; big fecaloma with bowel distension: 3 points.

** Digital rectal examination- normal finding: 0 points; tiny fecal balls present in the rectal ampulla: 1 point; filled rectal ampulla, but not extended: 2 points; extended rectal ampulla with the presence of solid feces: 3 points.

TABLE 6
STATISTICAL PARAMETERS OF THE MANOMETRIC FINDINGS VARIABLES

	Valid N	Median	Minimum	Maximum	Range
Sphincter length	81	2,5	0,5	5	4,5
Resting pressure	81	65	13	135	122
Squeeze pressure	81	125	30	250	220
Resting pressure in patients suffering from functional constipation	58	70	38	135	97
Squeeze pressure in patients suffering from functional constipation	58	130	75	250	175
Perception level	81	20	10	50	40
Volume at which occurs the feeling of fullness	81	150	30	300	270
The threshold for inducing RAIR*	81	20	10	100	90
RAIR* amplitude	81	20	0	60	60

* RAIR: rectoanal inhibitory reflex

TABLE 7
THE COEFFICIENT OF CORRELATION OF CLINICAL PARAMETRES

Correlations

Marked correlations are significant at $p < .05000$

N=81 (Casewise deletion of missing data)

	Total number of defecations	Difficult defecations	Use of laxatives	The need for provoked defecation	Periodically evacuating large quantities of feces	Abdominal palpatory finding	Digital rectal examination
Total number of defecations	1	0.29	0.49	0.51	-0.01	0.27	0.04
Difficult defecations	0.29	1	0.16	-0.02	0.26	-0.14	0.01
Use of laxatives	0.49	0.16	1	0.39	0.06	0.18	-0.06
The need for provoked defecations	0.51	-0.02	0.39	1	-0.15	0.16	0.03
Periodically evacuating large quantities of feces	-0.01	0.26	0.06	-0.15	1	0.11	0.24
Abdominal palpatory finding	0.27	-0.14	0.18	0.16	0.11	1	0.42
Digital rectal examination	0.04	0.01	-0.06	0.03	0.24	0.42	1

There is a correlation between total number of defecations, difficult defecations, the need for laxatives, stool provocation and palpatory findings of the abdomen.

There is a correlation between difficult defecations and periodically evacuating large quantities of feces and between abdominal palpatory findings and digital rectal findings.

quickly to the appearance of encopresis, which coincides with the observation of Bening et al.²⁶. In order to assess the severity of clinical feature, we used a combination of several methods of evaluation. One of these was the scoring system by Knowels and al.²⁷. For this survey it was necessary to omit some of the questions from the Knowels questionnaire because of children's age specificity. From the Knowels scoring system we used: the number of defecations per week, difficult defecation, the use of laxatives and the need for the provocation of defecation by using enemas or suppositories or a manual evacuation of feces, and, because of importance in the childhood, we

included data related to encopresis and data related to periodically evacuating large quantities of feces. Periodically evacuating large quantities of feces was described as an important segment of chronic constipation by numerous authors because it reflects an incomplete bowel emptying despite the apparent regular defecation^{22,28}. The physical examination included abdominal palpation finding by Loening-Baucke²⁹ scoring system and digital rectal examination.

To summarize, we investigated two groups of variables for each patient: the scores that assess severity on the basis of medical history with physical examination

TABLE 8
THE COEFFICIENTS OF CORRELATION BETWEEN THE POINTS FOR CLINICAL SYMPTOMS AND MANOMETRIC VALUES

Correlations

Marked correlations are significant at $p < .05000$

N=81 (Casewise deletion of missing data)

	Resting pressure	Squeeze pressure	Perception level	Volume at which occurs the feeling of fullness	The threshold for inducing RAIR*	RAIR* amplitude
Total number of defecations	-0.04	-0.1	0.38	0.09	0	-0.11
Difficult defecations	0.17	0.09	-0.02	-0.01	0	0.21
Use of laxatives	-0.18	-0.19	0.1	-0.07	0	-0.01
The need for provoked defecations	-0.3	-0.26	0.31	0.06	0.14	-0.15
Encopresis	-0.15	-0.09	-0.05	0.1	0.03	-0.18
Periodically evacuating large quantities of feces	0.16	0.15	-0.08	0.16	-0.2	0.24

* RAIR: Rectoanal inhibitory reflex

There is a correlation between total number of defecations and the perception threshold and between the difficult defecations and RAIR amplitude, as well as between the need for provoked defecations and the perception threshold.

There is a negative correlation between the need for provoked defecation, resting pressure and the squeeze pressure.

and the values that we obtained by anorectal manometry (Tables 2 and 3). In our patients manometric values of the functional anal canal length were within normal values for children, but those data were not significant. Children were of different age, most of them suffered from functional disorders and there were not enough children with anatomic changes after surgical correction of anorectal malformations. Resting pressure values in our patients were within normal values for children, as according to the literature¹⁹. Patients with functional constipation were considered separately. Hedlund et al.³⁰ found reduced resting pressure in children who were surgically treated (the posterior sagittal anorectoplasty) for anal atresia. In our group there were only seven children who were surgically treated for high rectal atresia, so this group is not separately observed. In children with encopresis, Beninga et al.²⁶ found unexpected hypertonus at rest, without any convincing explanation for this phenomenon. They referred to Arhan and al., who claimed that the hypertonus at rest causes retention of feces. Finally, Beninga et al.²⁶ concluded that the pressure at rest does not have a significant role in the diagnostic evaluation of constipation, since different authors obtained different results. A group of children with organic causes of constipation could not be subjected to detailed analysis because of the small number of patients. For our group of patients, we obtained squeeze pressure values, which were within normal values for children, as according to the literature^{1,19}. Hedlund et al.³⁰ found reduced squeeze pressure values in children after posterior sagittal anorectoplasty. The authors emphasize the insignificant correlation between pressure values and clinical findings, as well as the fact that that measured values depend on the cooperation between children and doctor, which is sometimes difficult to achieve, especially in younger children. Besides, Sutphen et al.³¹ emphasize that the different values obtained by different authors may be attributed to differences in measurement methods. The perception level values were within normal values for children. This parameter was mentioned by many authors as an extremely important factor for the constipated children who suffer from encopresis. There are reports in the literature of findings of elevated perception levels in constipated children, which is interpreted by the retention of faeces^{22,26}. In the children who suffer from encopresis there were found lower perception level values compared with the control group, which is explained by ignoring the contents in the rectum²⁶, but, also, there were data on the elevated perception level values, which is explained as a logical consequence of the rectum dilatation, which is caused by the accumulated fecal mass in the rectal ampulla²³. The values of volume of rectal balloon dilatation, at which a child feels unstoppable need for defecation or pain, were within normal values for children. In our group of patients there were children who were surgically treated for anorectal anomalies, than the children with innervation disorders and those with functional causes of constipation. In children with after posterior sagittal anorectoplasty for rectal atresia, Hedlund et al.³⁰ found the values of the maximum volu-

me dilation within normal values for children. In children with functional constipation, Bening et al.²⁶ found slightly higher values of the maximum volume dilation compared with the control group, while the median value in the group of children who suffer from encopresis was equal to the median value measured in the control group. The median of the volume of the rectal balloon dilatation values, which determines the level for inducing rectoanal inhibitory reflex, was within normal values for children, according to the other authors¹⁹. In seven patients failed we were not able to induce rectoanal inhibitory reflex. One of these patients suffered from functional constipation without encopresis and after treatment we succeeded in provoking the reflex, so the absence of reflexes in the first measurement could be due to a phenomenon recognized as false negative reflex^{1,19}. In fact, after a long severe dilation of rectal ampulla caused by impacted feces, the volume of the balloon which is commonly used for evocating the reflex was not sufficient for reflex to appear. The rest of our six patients in whom the reflex could not be evocated, suffered from constipation of organic origin. Two of these patients were surgically treated for Hirschsprung disease, two for anal atresia and two for spina bifida.

In one patient, who was treated for Hirschsprung disease, the reflex was positive, but with the increased threshold. During the measurements, we observed that the amplitude of the reflex was proportional to volume expansion, which is described as a regular occurrence in anorectal manometry¹⁹. Some authors describe the absence of such phenomenon. It is interpreted by chronic distension of the upper portion of the anal canal with retained feces, which interferes with normal passive sphincter relaxation²³. Analysis of clinical data, which was obtained by medical history and by physical examination, expressed in points, showed a significant correlation between the number of defecations per week and the need for laxatives, as well as the significant correlation between the number of defecations per week and the need for defecation provocation. Findings of digital rectal examination show a significant correlation with encopresis and physical examination of the abdomen. Certainly, physical findings showed the retention of the stool, which resulted in retentive encopresis. Considering the relationship between the scores, which were obtained by evaluation of clinical data (medical history and physical examination) and manometric values, we found a significant correlation between numbers of defecations per week and the perception threshold for rectal dilatation. Such relationship can be explained by the fact that children, who have longer intervals between defecations, longer retain feces and consequently have a dilated rectal ampulla, so they need greater volume for the rectal balloon dilatation to be perceived.

There was a negative correlation between the need for provocation of defecation and resting pressure, as well as squeeze pressure. In our group of patients, predominated children with functional disorder, so the need for provocation of defecation is a significant anamnestic

data which essentially indicates the severity of clinical feature.

In some patients, the higher resting pressure and the squeeze pressure during before treatment may explain the etiology of constipation, especially when the hypertonus and coordination disorder during defecation are present^{22,26}. In a group of adults, who suffered from constipation, Halverson et al.¹⁵ did not find a correlation between symptoms of outlet obstruction or dysmotility and anorectal function tests. They claim that the tests for evaluation of anorectal function evaluation contribute to the diagnosis in more than 50% of patients. They could not find any anamnestic data which indicates whether is a patient in the group in which the functional tests contribute to diagnosis. Felt-Bersma et al.³² also observed that the initial reports of many authors indicated significant manometric differences between healthy ones and constipated, but further investigations did not show significant correlation between clinical feature and manometric findings. They advice a reasonable approach to anorectal function tests, and emphasize the importance of combining different tests. Our research also did not show a significant correlation between clinical features and manometric findings.

There is a correlation between the number of defecations and the perception threshold and between the perception threshold and the need for provocation of defecation. This relation is easily explainable, because a strong retention of stool leads to the need for provocation of defecation and these patients have a higher perception threshold. Borowitz et al.³³ did not find correlation be-

tween the number of defecations and manometric parameters, while they found correlation between encopresis, the age when the symptoms occurred, duration of symptoms and spasms of the sphincter during attempted balloon expulsion. In our group, we did not find correlation between encopresis and manometric parameters, but unlike Borowitz³³, we could not objectively determine the increase in the level of sphincter pressure during attempted balloon expulsion because we could not achieve a good cooperation with our patients. We did not find a significant correlation between encopresis and the pressure at maximum contraction or the threshold of perception. So, these manometric values that we obtained could not be used in predicting the outcome of treatment regarding to severity of encopresis.

Based on our research, we can conclude that the clinical feature of children suffering from constipation shows a wide range of symptoms, regardless of the etiology of the disorder.

Our results did not show significant correlation between clinical symptoms and signs (on the basis of medical history and physical examination) and the values that we obtained using anorectal manometry, but we found a significant correlation between the number of defecations and the perception threshold of rectum dilatation, as well as between the perception threshold and the need for a provocation of defecation. Despite these facts, in children with prolonged or severe symptoms it makes sense to perform anorectal manometry, because it is a safe method and contributes to clarify the diagnosis, which is the starting point for treatment planning^{34–36}.

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KLINIČKE I MANOMETRIJSKE ZNAČAJKE ANOREKUMA U DJECE S KRONIČNOM KONSTIPACIJOM

S A Ž E T A K

Opstipacija u djece je čest problem. U većine ona je simptom funkcijskog poremećaja, ali ponekad je uzrokovana ozbiljnom organskom bolešću. Anorektalna manometrija igra važnu ulogu u dijagnostičkm postupku. Može se postaviti da neke vrijednosti dobivene anorektalnom manometrijom mogu biti vrlo korisne u planiranu liječenja. Zato se provelo istraživanje u skupini od 81 opstipiranog djeteta. Od toga je 58 bolesnika bilo s funkcijskom opstipacijom a 23 s organskim poremećajima. Dob bolesnika je od 3 do 15 godina. Primijenjen je sustav bodovanja da bi se ocijenila težina opstipacije te je provedena anorektalna manometrija. Na osnovu dobivenih rezultata može zaključiti da je anorektalna manometrija nezaobilazna u dijagnostičkoj obradi opstipirane djece. Primijenjen je sustav ocjenjivanja kliničke slike kakav do sada nije korišten, pa su potrebna daljnja istraživanja kako bi se taj sustav još poboljšao te kako bi se dodatno razjasnilo odnose između kliničkih podataka i nalaza anorektalne manometrije.