

ENCOPRETIC CHILDREN: EXPERIENCE WITH FIFTY CASES*

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SUMMARY: Bulut M, Tekant G. (Department of Pediatric Surgery, Şişli Children's Hospital, Istanbul, Turkey). Encopretic children: experience with fifty cases. Turk J Pediatr 33: 167-172, 1991.

Encopresis is defined as the deposition of stools in a child's underwear despite normal defecation control mechanisms.

Fifty children with encopresis were admitted to the Pediatric Surgery Department of Şişli Children's Hospital between October 1, 1987 and January 1, 1990. Two treatment regimens were used. Thirteen patients received mineral oil and glycerine suppositories and 37 patients received rectal irrigations and Lactulose. Five patients were lost to follow-up and 40 patients have completed their six month treatment schedule.

The results of our study suggest that encopresis is a complex abnormal motility disorder, requiring a multidisciplinary approach. Best results will be obtained by good parent-child-doctor cooperation and close follow-up. *Key words: encopresis, fecal soiling.*

In 1926, Weissenberg¹ applied the term "encopresis" to describe the deposition of stools in a child's underwear despite normal defecation control mechanisms. Since these children have completely normal anal sphincters and have established normal bowel control for a period of time, this condition has been accepted by many as being psychogenic in origin^{2,3}. Thus for many years these children mostly underwent psychiatric treatment. But motility studies, anorectal manometry, and electromyography evaluations support a physiopathologic basis for encopresis⁴⁻¹¹. In the light of the data accumulated on the subject, we set up a treatment protocol and began managing these patients in our department. In time, our experience with encopresis increased, and our patient series expanded. Chronic stool retention has been noticed as the major etiologic factor in this disorder. The aim of this report is to describe the findings of study conducted on encopresis, and to stress the important role of effective stool evacuation with close follow-up in the treatment of these unfortunate children.

Material and Methods

Fifty children with fetal incontinence seen in the Department of Pediatric Surgery at Şişli Children's Hospital between October 1, 1987, and January 1, 1990 were studied. Encopresis was defined as fecal incontinence lasting for a period of no

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less than six months, and occurring more than once a day. A detailed history was obtained and a thorough physical examination was performed to differentiate diseases with similar presenting symptoms. Known predisposing factors for encopresis were investigated in each patient.

Two treatment regimes were used. The first group, who were not hospitalized, included 13 patients. They received mineral oil and glycerine suppositories twice a day. Due to the late response to treatment in the first group, a second group, consisting of 37 patients, received rectal irrigation and Lactulose for a period of three days supervised by a surgeon and a psychologist. Rectal irrigations were administered after breakfast and dinner to stimulate the gastrocolic reflex. All patients were placed on a low-fiber diet for a period of two weeks and they were trained to sit on a toilet for a period of 10 minutes following irrigations which were administered twice a day (Table I). Both regimes were adhered to for three months.

TABLE I: Treatment Programmes

- Group 1: 13 patients (Home treatment).
 - Mineral oil 2 x 15 - 30 cc / day.
 - Glycerine suppositories 2 x 1 - 2 / day.
- Group 2: 37 patients (Admitted to hospital).
 - Lactulose 2 x 15 - 30 cc / day.
 - Rectal irrigation 10 cc / kg.

The patients were scheduled for a six month follow - up following the initial therapy. In the first month the visits were arranged weekly, in the second month once every two weeks, and then once every month. At each visit, the patients were seen by the senior author, and the therapy was modified according to the child's response to the regimen. The treatment regimens were extended to more than three months, if necessary.

At the last follow - up, each child was graded according to response to the regimen. An excellent result was defined as the disappearance of fecal soiling and normal bowel control without the use of therapy. A moderate result consisted of minimal fecal staining of less than three times monthly, and complete resolution with appropriate therapy. A poor result was defined as a child who continued to soil despite therapy.

Results

The clinical characteristics of children with encopresis are presented in Table II. The majority of children in our study were males (n: 32; 64 %). The age

TABLE II: Clinical Characteristics of Study Group

	<u>No. of Patients</u>	<u>Frequency (%)</u>
Male	32	64
Female	18	36
Age at initial clinic visit (yrs).		
4 - 8 yrs	27	54
8 - 12 yrs	23	46
12 above	—	—
Enuresis	19	38
Average age at onset (yrs): 4.4 yrs		

distribution at initial visit to the clinic were: 27 patients between 4 to 8 years (54 %), 23 patients between 8 to 12 years (46 %). The average age of onset was 4.4 years and enuresis was an accompanying symptom in 19 (38 %) patients.

The distribution of predisposing factors are presented in Table III. There was a predominance of simple constipation, anal fissure and psychosocial stress with a frequency of 26 %, 8 %, 12 %, respectively. No predisposition was determined in 19 (38 %) patients.

Table III: Predisposing Factors

	<u>No. of Patients</u>	<u>Frequency (%)</u>
Simple constipation	13	26
Anal fissure	4	8
Psychosocial stress	6	12
Severe gastroenteritis	4	8
Rectal prolapse	1	2
Wrong toilet training	2	4
Family history	1	2
No predisposition	19	38

From the 50-patient study group, five patients (10 %) were lost to follow - up. Forty patients completed their six-month schedule, and the remaining five patients completed an average of three months.

The results of the study group at the last follow - up are presented in Table IV. Excellent results were obtained in 40 patients (88.9 %), while in four patients (8.9 %) there were moderate results, and in one patient (2.2 %) the result was poor. But on the average, the response to treatment was 12.9 days in the first group, and 4.8 days in the second group.

TABLE IV: Results

	<u>Excellent</u>	<u>Moderate</u>	<u>Poor</u>	<u>Total</u>
Group 1				
Mineral oil + Glycerine supp.	9	2	—	11
Group 2				
Lactulose + Rectal irrigations	31	2	1	34

Discussion

Encopresis is a symptom resulting from chronic stool retention leading to complex abnormal motility. The onset of disease is around the age of four. The majority of patients are constipated and have fecal impaction⁴⁻¹⁶. Chronic stool retention is usually unnoticed by the patient and family. In children with encopresis, the critical volume of rectal distention required to produce conscious awareness is increased. This leads to relaxation of IAS (internal anal sphincter) at volumes that do not stimulate conscious awareness leading to soiling⁷. For this reason children with encopresis have a history of not sensing the urge to defecate before soiling occurs^{6, 7}.

Thus predisposing factors result in stool retention. The following predisposing factors for encopresis have been determined by Levine⁶:

Stage I : Infants and Toddlers

- a) Simple constipation
- b) Early colonic inertia
- c) Congenital anorectal problems
- d) Other anorectal conditions
- e) Parenteral overreaction
- f) Coercive medical interventions

Stage II : Training and Autonomy (2 - 5 years of age)

- a) Psychosocial stress during training period
- b) Coercive or extreme permissive training
- c) Toilet fears
- d) Painful or difficult defecation

Stage III: Extramural Function - Early School Years

- a) Avoidance of school bathrooms
- b) Prolonged or acute gastroenteritis
- c) Psychosocial stress
- d) Food intolerance
- e) Frenetic life style

Predisposing factors were able to be determined in 62 percent of our patients with a dominance of simple constipation, anal fissure and psychosocial stresses, all supporting chronic stool retention.

Differential diagnosis includes structural diseases of the anus, rectum, colon or secondary abnormalities (endocrinologic, neurologic) or side effects of drugs^{6, 7}. A detailed history and thorough physical examination is sufficient to differentiate these diseases. Since soiling, the major presenting symptom in these children is not present in Hirschsprung's disease, we believe that barium enemas and rectal biopsies, used routinely at some centers are unnecessary¹⁶.

Today, most authors agree that therapy is successful only if the colon is evacuated, usually by means of enemas^{6, 7, 12, 15, 16}. Our findings support this opinion, too. The group receiving mineral oil and suppositories has been more resistant to therapy than the Lactulose and rectal irrigation group. We believe that rectal irrigations are more efficient in evacuating the over-distended rectum and help regain IAS tonus faster. In fact, 70 percent of our patients receiving rectal irrigations began to have bowel control after their first stool evacuation, and this has led to a positive psychological boost, encouraging them to follow the treatment programme.

For many years, these children have been treated by psychiatrists but present data demonstrates that they do not have clinically significant problems and will not benefit from psychotherapy alone^{4, 9, 17}. The aim of this study was to combine psychological support with medical therapy to reduce hospitalization and allow for good parent - child - doctor cooperation. Despite all these efforts, five (10 %) patients were lost to follow - up.

The presence of enuresis as an accompanying symptom in 19 (38 %) children also supports a complex motility disorder. It is interesting to note that after fecal continence was regained, enuresis ceased spontaneously in 12 patients.

A low-fiber diet was introduced for two weeks, with the aim of reducing the bulk in the colon and helping the IAS regain its tonus faster.

In cases highly resistant to medical therapy, a search for food intolerance⁸, WBI (whole bowel irrigation)¹² and a surgical approach^{18, 19} have been suggested. In fact in this group, a patient was resistant to Lactulose and excellent bowel control was achieved after WBI. Some authors have reported surgical therapy as the first mode of treatment^{18, 19}. But the high success rate obtained in the presented study suggests that medical therapy must always be the first choice of treatment in these children.

Conclusion

Since knowledge is limited about bowel movements, the etiology of encopresis still remains a mystery. Encopresis is a result of chronic stool retention and the cornerstone of treatment is first the total evacuation of the bowel. In patients normal bowel control should be regained by toilet training. Therapy should be adapted according to the child's needs, rather than the enforcement of strict protocols. The length of therapy may be extended in cases that are resistant to treatment. Good parent-child-doctor cooperation should be assured. Encopresis with its complex physiopathology, requires teamwork, where either a pediatric gastroenterologist or a pediatric surgeon directs the therapy.

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