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EVALUATION AND TREATMENT OF FUNCTIONAL CONSTIPATION IN CHILDREN

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Functional constipation is one of the most healthcare problem during childhood. In the pediatric population its incidence has been estimated to be approximately 3%-10%.

Aim of the study:This study shows our experience in the assessment and management of functional constipation during childhood and a drug treatment options.

Materials and methods
This study was performed at PHO "AlbaMed" during the period between January 2015 and January 2017. The children included in this study were aged between 4 and 18 years and suffered from functional constipation. The diagnosis of functional constipation was performed based on the Rome III definitions.

Results
In this study we have included a total of 42 patients with functional constipation.
The mean age of children was 8.9 years with a male to female ratio 18:24.
The most commonly observed symptoms during presentation were difficulties in defecation, painful defecation, abdominal distention with pain and hard stools. All the patients were treated with synbiotics and in 35 of them number of defecations, abdominal pain, painful defecation, and stool softening were significantly improved approximately one week after treatment.

Conclusion
Childhood constipation is a common problem in pediatric practice. According to our experience results that the use of synbiotics in the treatment of functional constipation in children is beneficial.
Key words: Functional constipation, children, synbiotics

Functional constipation is one of the most healthcare problem during childhood. In the pediatric population its incidence has been estimated to be approximately 3%-10%.The clinical feature of functional constipation is characterized by infrequent bowel movements, hard stools with painful defecation or abdominal distention often accompanied by abdominal pain .
In approximately 95 % of children with functional constipation, no any organic cause can be found. Whereas in the small percent of patients , constipation has an organic cause, such as a metabolic or endocrine disorder, neuromuscular diseases, anorectal anomalies, or Hirschsprung's disease.
Other information which can be helpful for diagnosis of functional constipation are changes in appetite, the presence of nausea or vomiting or a history of blood in the stools without the presence of fissures.

The etiology of functional constipation is not completely understood and is estimated to be multifactorial, while one important factor, especially in young children, can be behavior of stool withholding. The common reason of this behavior is a negative experience with defecation such as a episodes of hard and painful stool.
The diagnosis of functional constipation is complex and requires a thorough medical history and a complete physical examination. Medical history should be focused on the withholding behavior , defecation frequency, stool consistency, and painful or hard bowel movements .

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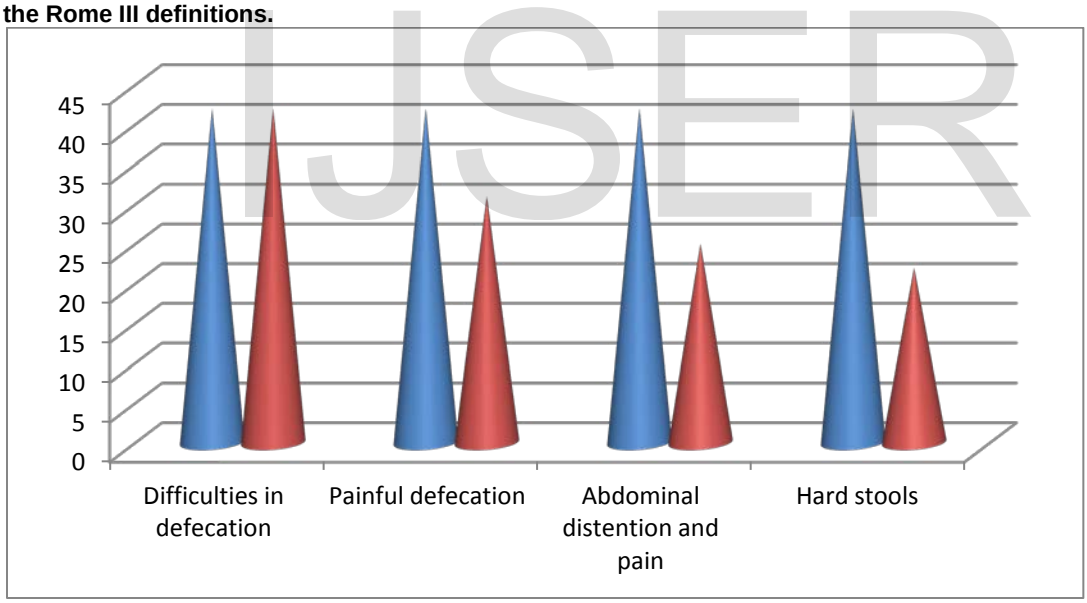
A medication history about the use of oral laxatives, enemas, or the use of other medication that may influence bowel movements is of special significance for the diagnosis of this condition. The physical examination consists of abdominal control, mainly focuses on detection of a palpable fecal mass. During perianal inspection, attention should be paid to the presence of scars, fissures or erythema. Fissures may be sign of hard and large stools. Digital rectal examination is obligatory and provides valuable information on the presence of a rectal fecal mass, anorectal sensation, and sphincter tone.
Aim of the study: The aim of this study was to show our experience in the assessment and management of functional constipation during childhood. At the same time we want to demonstrate the efficacy of synbiotics in the treatment of children with functional constipation.

Materials and methods
This study was performed at the PHO "Alba - Med" during the period between January 2015 - 2017. The children included in this study were aged between 4 and 18 years which suffered from functional constipation. The diagnosis of functional constipation was performed based on the Rome III definitions.

The study was performed prospectively, and synbiotic were provided to the children. After four weeks of treatment the patients or parents were questioned about a weekly number of defecations, the presence and intensity of abdominal pain, the presence of painful defecation or signs of rectal bleeding.
Patients with improvement of their disturbances, with more than three defecation weekly and softening of the stool were considered to fully benefit
from the treatment, whereas patients with the improvement of or some of the symptoms were considered to partially benefit from the treatment.

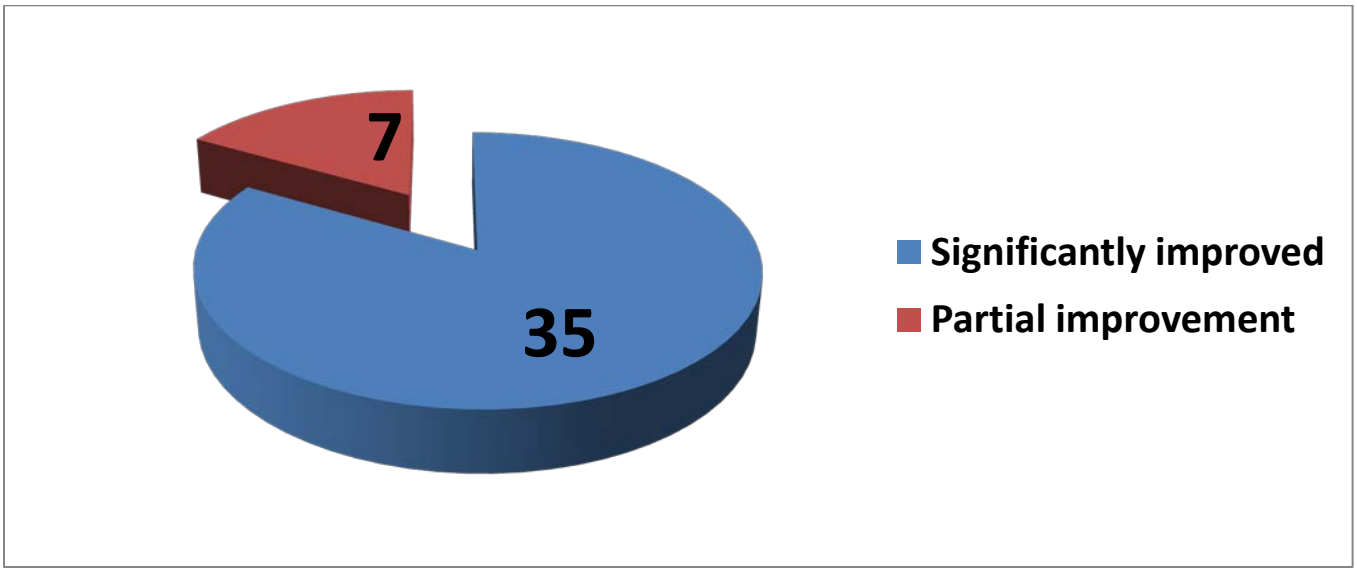
Results
In this study we have included a total of 42 patients with functional constipation.
The mean age of the children was 8.9 years with a male to female ratio of 18:24, whereasthe most commonly observed symptoms during presentation were difficulties in defecation registered in all the patients, painful defecation in 31 or 74 % of children, abdominal distention and pain in 25 (59.5 %) , hard stools in 22 patients or 52 %.Diagram 1.



Family history was carefully taken in all the patients, searching for gastrointestinal diseases such as inflammatory bowel disease, food allergies, abnormalities of organs such as the thyroid and parathyroid glands , kidneys, or some systemic diseases. Except in seven children diagnosed with allergy in cow milk in all other infant no any disturbance was registered. In six children affected by constipation because of the use of cow milk a improvement after elimination of cow milk protein was registered.

Physical examination was specifically focus on the abdominal examination, inspection of the perianal region (such as signs of erythema perianalis, skin tags, or anal fissures). Digital rectal examination evaluates the presence of an anal fissure or of a fecal mass in nine children. Abdominal radiography was realized in 17 patients because of marked abdominal distention. In three of this patients was present the sign of megacolon which can provoke and lead to constipation.

After careful examination all the patients were treated with synbiotics and in 35 of them number of defecations, abdominal pain, the pain during defecation, and stool softening were significantly improved approximately one week after treatment. In seven children only partial improvement of disturbance was registered (diagram 2.). All this patients were carefully monitored by pediatrician.



Patients who had improvement from the use of synbiotics were followed up for six months, whereas children whose complaints recurred after first or second month were treated as a patients with recurrent disease. No any side effects such as vomiting or diarrhea, were registered in any of the patients who used synbiotics.
After improvement maintenance therapy is ordered to facilitates easy and frequent defecation and to prevent recurrent constipation.
Maintenance treatment is continued for at least six months, whereas the children were evaluated in continuity to early detect and prevent relapses.

Discusion

Functional constipation is one of the most common healthcare problem among children . According to the Rome III criteria, stool consistency is an important factor for evaluation of constipation . The evaluation of children with FC consist of a meticulous medical history, complete physical examination and some laboratory investigation. In most cases other additional investigations are not necessary[10,11,12]. In the treatment of children with FC early and adequate treatment is of key importance, whereas a delay is negatively related to recovery[13, 14].
In our study most of the children with FC reacted well in ordered therapy with synbiotics. In a study conducted by Saneianet al[1](16) on 60 children ages 2-14 years with constipation increased stool frequency was observed after administration of synbiotics. Similarly to our study they found that the synbiotics was effective in the treatment of children with constipation, and no side effects were observed in any of the patients.
In another study performed by Tabbers et al.[2] in 20 patients aged between 3 – 16 years with FC the stool frequency and consistency were improved considerably after treatment with synbiotics.
In a prospective study conducted by Pijpers et al. about the prognosis of FC in children after treatment with synbiotics resulted that approximately 50 % of the children with FC had recovered and were taken off laxatives, whereas another 40 % remain still symptomatic.

Sometimes functional constipation is difficult to treat. In a study of Staiano[13]et al. resulted that children with FC continue to have problem with defecation after five years of treatment. Another study conducted by Sutphen JL et al. [16] found that about 30 percent of children treated for

constipation for a mean of 6.8 years continued to have intermittent constipation.
Other studies show no statistically improvement of constipation after use of synbiotics. Koppen et al., 2016[7, 8], Michaud L[14] and Tabbers[9] studied the effects of diferent probiotics on stool consistency and found no statistically significant between them.
Tabbers[9] et al. used fermented milk containing *B. lactis* to treat constipation in children, and the outcomes showed that stool consistency was not significantly improved.
In patients with severe and intractable form of constipation which does not react in pharmacological treatment a further more detailed evaluation is obligatory to detect the cause of constipation. Sometimes If the problems with constipation does not improve after six months of intensive treatment the child must be referred to a pediatric gastroenterologist or surgery for the treatment[3, 9, 10, 15].

Conclusion

Childhood constipation is a common problem in pediatric practice. The diagnosis of functional constipation is based on the history and a physical examination, in accordance with the Rome III criteria. If the diagnosis is not clear additional investigations in order to rule out an underlying disease is mandatory. According to our experience results that the use of synbiotics is beneficial in the treatment of functional constipation in children.

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