Fibers in Pediatric Functional Gastrointestinal Disorders. Practical Considerations from Clinical Cases

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Background:

Conditions associated with chronic or recurrent gastrointestinal symptoms, related motility disorders, visceral hypersensitivity, impaired immune or mucosal functions and alteration of the intestinal microbiota may be referred to as functional gastrointestinal disorders (FGIDs).

FGIDs in pediatrics represents over 50% of outpatient gastroenterology consults and are associated with significant morbidity. Common disorders include regurgitation in infants and constipation in toddlers. Water soluble fibers have an important role in the treatment of FGIDs. Partially hydrolyzed guar gum (PHGG) is a dietary fiber derived from guar gum and is associated with beneficial effects in patients with constipation or diarrhea, including weight gain in severely malnourished children. PEPTAMEN JUNIOR® PHGG is a whey peptide-based, nutritionally complete formula, with added PHGG, specifically designed for the dietary management of children 1 to 13 years of age who are at risk of malnutrition because of gastrointestinal (GI) problems.

Clinical Case 1:

A 12-year-old girl with history of FGID in the form of abdominal pain had failed treatment with antispasmodic drugs, lactose-free and gluten-free diet. Daily oral supplement with 10 grams of a PHGG fiber granulate led to a significant reduction in abdominal pain and improvement in stool frequency after 4 weeks of treatment.

Clinical Case 2:

An 11-year-old girl had a history of daily episodes of fecal soiling, which led to discontinuation of physical activity. Her FGID was diagnosed as retentive fecal incontinence secondary to chronic functional constipation. A PHGG fiber granulate of 10 grams per day was prescribed for four weeks. This resulted in significant reduction in fecal soiling and normalization of bowel habits.

Clinical Case 3:

A 5-year-old boy with cerebral palsy was referred for severe malnutrition and constipation, among other physical ailments. After placement of a percutaneous endoscopic gastrostomy (PEG) tube, enteral nutrition of a polymeric formula was started to supplement oral intake. At 60% of prescribed energy requirements, intolerance in the form of vomiting ensued. The polymeric formula was switched to PEPTAMEN JUNIOR® with increased energy delivery, but no bowel function improvement. PEPTAMEN JUNIOR® PHGG was initiated, and weight gain was achieved with improvement in constipation.

Clinical Case 4:

A 12-month-old boy with history of premature birth at 26 weeks, periventricular leukomalacia, ventilator dependency, necrotizing enterocolitis, extensive jejunal-ileal resection, parenteral nutrition (PN) and PEG tube placement experienced faltering growth and weight gain. Nutritional support included an enteral protein whey-based formula and nocturnal PN. The enteral formula was switched to whey peptide- based formula, but weight loss continued. PEPTAMEN JUNIOR® PHGG was initiated enterally with concomitant nocturnal PN. Bowel movements improved and weight and length increased.

Conclusion:

FGIDs adversely affect children's quality of life and healthcare costs. Implementing appropriate feeding behaviors seems to be effective in improving GI function. Fiber may represent a pillar of FGID treatment strategy. PHGG supplementation can be considered an important therapeutic intervention in many pediatric patients with FGID. It has been suggested that ≥ to 10 grams/day of extra fiber may be needed, especially in non-ambulatory children.

The complete study may be accessed at:
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