EDITORIAL

Management of Recurrent Abdominal Pain: Have we Reached the end of the Tunnel?

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Recurrent Abdominal Pain (RAP) is still an enigma because in the majority of children the cause of pain is not obvious. It is one the most commonly encountered problems in pediatrics, which baffles the experienced pediatrician, disturbs the parents, and adversely affects the quality of life in the child. The increased rate of school absenteeism in these children is also a cause of concern to the family and the pediatrician. The financial burden is probably significant considering the number of hospital visits and extrapolating the data calculated for managing adults with irritable bowel syndrome. John Apley, in 1958, in his monograph on recurrent abdominal pain (RAP) had vividly described this entity as three or more episodes of pain that occur over at least three months severe enough to interfere with normal activities [1]. It was later pointed out that the term recurrent abdominal pain was more a description rather than a diagnosis, and therefore the term chronic abdominal pain (CAP) is now preferred over RAP.

The American Academy of Pediatrics Subcommittee on Chronic Abdominal Pain in 2005 defined CAP as a long lasting intermittent or constant abdominal pain that is functional or organic [2]. In clinical practice, it is generally believed that pain which exceeds 1 or 2 months in duration can be considered chronic; however, to maintain uniformity, 12 weeks is taken as the cut-off. Functional abdominal pain (FAP) is the pain that occurs in the absence of anatomic, biochemical, metabolic, inflammatory, immunologic, or neoplastic disorder, and forms the major proportion (75-85%) of CAP.

In 2006, the Rome III criteria were introduced, and FAP was classified as a type of Functional Gastro Intestinal Disorders (FGID). In the Rome III criteria, functional dyspepsia, irritable bowel syndrome, abdominal migraine, functional abdominal pain and functional abdominal pain syndrome were grouped under the abdominal pain-related pediatric FGID [3]. These deliberations led to a better scientific understanding of the pathophysiologic mechanisms of FAP which was an essential initiative for proper therapy.

The pathophysiology of functional abdominal pain is thought to involve abnormalities in the enteric nervous system – a complex nervous system that envelops the entire gastrointestinal (GI) tract. A dysregulation of this brain-gut communication plays an important role in the pathogenesis of FAP. Factors such as visceral hypersensitivity, altered intestinal motility and visceral hyperalgesia could disrupt the brain gut interaction and explain the cause of pain. Changes in intraluminal pressure, and mucosal inflammatory processes secondary to infections, allergies or primary inflammatory diseases may cause sensitization of afferent nerves associated with the onset of hyperalgesia. At the molecular level, brain and gut peptides, mucosal immunology, inflammation and alterations in the bacterial flora of the gut probably provide the translational basis for GI symptom generation.

Many modalities of treatment such as dietary interventions, probiotics, pharmacological therapy, psychological support and alternative medicine have been suggested, studied and screened. However, since the pathophysiology of FAP is complex and multifactorial, there is no single form of therapy which can be recommended as first line therapy. The potential power of the effect of placebo in treating children with FAP has been stressed. A Cochrane review [4] published the efficacy of three randomized controlled trials (RCTs) comparing Pizotifen *versus* placebo, peppermint oil capsules with placebo, and Famotidine with placebo. The authors concluded there was weak evidence of benefit on medications in children with RAP and there was little reason for their use beyond clinical trials. A Cochrane review [5] analyzed two RCTs and did not recommend use of antidepressants in the management of abdominal pain-related FGID. A recent RCT did not show a statistical difference of mebeverine over placebo either in the response rate or in the secondary outcome measures [6].

A Cochrane review [7] of seven trials on the efficacy of dietary interventions concluded that there was a lack of evidence – be it fiber supplements, lactose-free diets or lactobacillus supplementation – in RAP. The understanding of the biopsychosocial model of FGID opened the vistas for the use of psychosocial interventions, including parental education, family therapy, cognitive behavioral techniques, relaxation, distraction, hypnotherapy, guided imagery and biofeedback [8]. Humphreys, *et al*. [9] compared four treatment protocols comprising different behavioral strategies, and concluded that the active treatment protocols assessed were better than the established reports. Duarte, *et al*. [10] reported that cognitive behavioral family intervention significantly reduced the frequency of pain crises of children with non-organic pain. All these studies only indicate that there is no single therapy which has proven efficacy in managing children with FAP.

Drotaverine, a selective inhibitor of phosphodiesterase isoenzyme IV, is considered an effective antispasmodic, intestinal smooth muscle relaxant, without anticholinergic side effects. A recent randomized double-blind placebo-controlled study [11] established the efficacy and safety of Drotaverine hydrochloride in Indian adults with irritable bowel syndrome. In this issue of *Indian Pediatrics*, Narang, *et al.* [12], in a randomized placebo controlled trial, have evaluated the efficacy and safety of Drotaverine hydrochloride in children (66 per group) aged 4-12 years with non organic RAP. They reported a reduction in the number of episodes of abdominal pain and days of school absence in the group receiving drotaverine thrice a day for four weeks. The results have documented the safety of drotaverine which may help a pediatrician to confidently prescribe this drug in children when necessary. Though the efficacy appears satisfactory, Drotaverine cannot be accepted as the panacea for treating all children with recurrent abdominal pain. Studies should target specific phenotype of symptoms rather than RAP in general. Children should be categorized as per the Rome III criteria into separate disorders as there is a difference in etiology and response to therapy. Psychosocial interventions will continue to be an important form of therapy.

We have not yet reached the end of the tunnel in the management of functional abdominal pain but we can see a light, and this will become brighter as more larger multicentric studies are done in children.

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