

An Integrative Review of the Literature on the Chiropractic Care of Infants with Chronic Constipation

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Background: Since 1986, laxative use cost more than \$200 million in the United States which is said to be underestimated. Constipation is one of the 10 most common problems addressed by pediatricians and accounts for approximately 25% of a pediatric gastroenterologist's work. Chiropractic is a common alternative therapy for children with constipation. We undertook this integrative review of the literature on the subject to inform clinical practice, research and policy.

Method: Empirical and theoretical perspectives were examined to characterize the patient population and the theoretical and clinical framework upon which care it is predicated upon. In particular, we sought to examine possible etiologies, physical examination findings and care approaches. Relevant literature search began by using the databases Pubmed [1966-2013], MANTIS [1964-2013] and Index to Chiropractic Literature [1984-2013]. The search terms utilized "constipation". Two popular trade journals were also hand-searched. All reports describing the chiropractic care of children with constipation, regardless of peer-review or not were included. Full manuscripts were continuously assessed for additional references meeting our inclusion criteria. Abstracts from conference proceedings were not included in this review.

Results: Our review found 14 case reports, one case series, and one review of the literature. The children ranged in age from 11 weeks to 8 years of age with the majority being female. An additional 5 papers had constipation as an associated complaint. Our review found spinal manipulative therapy as the primary care approach to address lumbopelvic dysfunctions. Adjunctive therapies included primarily dietary interventions (i.e., increase fiber) and restrictions (i.e., avoid dairy).

Conclusion: Our integrative review sought to capture the breath and depth of chiropractic care in infants with chronic constipation. We sought authenticity, representativeness and informational value of the literature to inform both conventional and alternative practice, research and policy. We support further research in this field.

The Use of Proceed Mesh in Ventral Hernias: A Pilot Study on Twenty Two Cases

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Purpose: The management of major omphalocele and large incisional hernias is a common problem and constitutes a great challenge for pediatric surgeons. In most cases the abdominal cavity is so small and does not allow immediate reduction. Prosthetic materials are becoming increasingly popular for such repair, but direct contact between the bowel and these synthetic materials carries the risk of adhesions and intestinal obstruction. The relatively new PROCEED mesh with absorbable layer in contact with the bowel and another polypropylene non absorbable layer against the abdominal wall may not produce such adhesions. The aim of this study is to evaluate the feasibility and outcome of this relatively new prosthetic mesh for repair of ventral hernia.

Methods: Between June 2009 and December 2012 a pilot study was conducted on twenty two cases with large ventral hernias subjected to open surgical repair using PROCEED mesh. The inclusion criteria were cases with large ventral hernias (4cm). The evaluating parameters were all the early and late post-operative complications.

Results: The defect size ranged from 5 cm to 12cm. The early post-operative complications (\leq 1 month) were seroma discharged from the wound in four cases while the late complications were recurrent herniation and stitch sinus occurred in three cases. No manifestations of intestinal obstruction, enterocutaneous fistula or mortality were encountered in any of the twenty two cases.

Conclusions: the use of PROCEED composite mesh in ventral hernias is feasible and has minimal complication rates.

Chronic Abdominal Pain is Also Celiac Disease

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Background: Celiac disease (CD) is a lifelong intolerance to gluten and its symptoms can range from mild to severe. Although the classical CD is very easy to recognize, there are many cases with polymorphic symptoms.

Objective: To determine the incidence of CD in the area of Tomelloso in a 15 months period.

Material and method: The study is a retrospective one. We have taken in the study all the children that came as “new outpatient” in Pediatrics, with symptoms compatibles with CD, between January 2012 – March 2013. The most frequent symptom was represented of chronic abdominal pain, followed by vomiting, diarrhea and weight loss or association of these symptoms.

Results: Functional abdominal pain was the most common cause of chronic abdominal pain. 11 patients needed the HLA for CD in order to confirm the suspicion of the disease. 9 patients were DQ2 positive; from those, in 3 cases the biopsy confirmed CD. Other 3 patients benefited of the biopsy, 2 of them with positive result for CD (Marsh 3). In the studied period were diagnosticated 5 new cases of CD.

Conclusions: In front of a patient with chronic abdominal pain, we have to think that not all chronic abdominal pain is functional pain.

Solitary Rectal Ulcer Syndrome: A Pediatric Case Report

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Background: Solitary Rectal Ulcer Syndrome (SRUS) is an uncommon benign disease of rectum, which predominantly affects young adults aged between 30 and 50 years. SRUS is rare in pediatric population and there are few children case reports in literature. It usually presents with rectal bleeding, mucous discharge, prolonged straining, tenesmus and localized pain in the perineal area. The diagnosis is based on high index of suspicious to identify the clinical symptoms, combined with the endoscopic and histologic characteristic findings. The macroscopic appearance of the rectal lesion may vary from hyperemia to ulceration or polypoid lesion. Histologically, the presence of fibromuscular obliteration of the lamina propria with the disorientation of muscle fibers is pathognomonic.

Objective: Case report of SRUS in a pediatric patient.

Methods: Review of patient's clinical record and updated relevant literature.

Results: 12-year-old girl referred by primary medical care with a 6-month history of tenesmus, frequent defecations and stools containing mucus and fresh blood on its surface. There was no previous history of constipation or other symptoms. At first visit, physical examination was irrelevant. Routine laboratory tests including blood cells count, coagulation tests, C-reactive protein and erythrocyte sedimentation rate were normal. Stool examination for bacteriology, virology and parasites were negative. The colonoscopy performed demonstrated a single ulcer in the distal rectum and the biopsies of the lesion confirmed histopathologically the diagnosis of SRUS. **Conclusion:** SRUS is a well-defined but nonspecific entity with various presentations; therefore it may be difficult to distinguish it from other bowel diseases. An early diagnosis requires a high index of suspicious of the clinician and the pathologist, as happened with our case. In fact, adult studies have demonstrated that the correct diagnosis usually is delayed approximately 5 to 7 years and it is known that a prolonged period of misdiagnosis may have important consequences.

Clinical-Prognostic Significance of the Bcl-2 Family Proteins in Children with Celiaca

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Development of the unfavourable outcomes in bowel diseases depends on the impairment degree of the intestinal mucosa which mechanisms involve apoptosis processes related to the mitochondrial proteins, especially, superfamily of Bax|Bcl-2 proteins.

Purpose: To assess clinical-prognostic value of the series of Bcl-2 proteins of the intestinal mucosa in children with celiaca.

Tasks: 1. To determine levels of the Bcl-2 family proteins in the biopsies obtained from the sites behind the duodenal bulb in children with celiaca and to evaluate their clinical role.

2. To reveal correlational interrelations of the Bcl-2 family proteins levels in the intestinal mucosa with clinical-immunological parameters in children with celiaca.

3. To evaluate prognostic role of the Bcl-2 family proteins during celiaca in children.

Material and methods: There were examined 57 children with celiaca aged from 7 till 16 years: 20 children having partial diet; 14 children not having diet; 23 children having rigid diet. There were performed clinical examinations, functional-instrumental investigations, morphological, immunogenetic, immunologic methods, mathematic modeling and statistic analysis.

Results: In children having rigid diet there were observed single Bcl-2-labeled cells on the regenerated not higher one layered columnar epithelium of the small intestine ($16,6 \pm 0,32$, $p,0,001$); in children having rare disturbances of a gluten diet – maximum accumulation of labeled Bcl-2 cells was found in the area of submucosa between complex tubular branched glands of the duodenum, particularly in the distal parts ($7,5 \pm 0,4$, $p,0,001$); in children without a gluten diet there were found dystrophic and atrophic expressions in the glandular and integumentary epithelium and decrease in Bcl-2 ($2,5 \pm 0,4$, $p,0,001$).

Study of the correlational interrelation between morphological and immunological factors of apoptosis revealed strong links of the Bcl-2 family proteins with interepithelium lymphocytes (negative), TNF- α (direct), of moderate intensity – with CD95 (positive).

Conclusion: On the basis of the results obtained it may be concluded that a gluten diet and apoptosis factors have significant influence on the development of celiac in children. The accumulation of interepithelial lymphocytes in decrease of Bcl-2 family proteins promoted to unfavourable development and prognosis of celiaca.

Bone Metabolism in Childhood Chronical Gastrointestinal Diseases

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Objective: There is limited data on bone metabolism in childhood chronic GIS diseases. The aim of this study was to evaluate the bone metabolism of diagnosed GIS disease cases.

Methods: Thirty patients diagnosed with chronic GIS disease, between ages 1 to 16, were included in this study. To evaluate patients' bone metabolism, serum calcium, phosphorous, alkaline phosphatase, parathormone, and 25(OH)D levels were measured. Bone ages of the patients' were also determined. Children with serum 25(OH) D concentrations of less than 20 ng/mL were considered to have vitamin D deficiency, those with 25(OH)D concentrations of 20–29 ng/mL were classified as vitamin D insufficiency. According to these results, vitamin D and/or calcium supplementation treatment was initiated in recommended dosages.

Results: From a total of 30 children, 8 boys (26.7%) and 22 girls (73.3%), 21 (70.0%) were diagnosed with Celiac disease, 4 (13.3%) were with chronic biliary ductal disease, 1 (3.3%) was with autoimmune hepatitis, 1 (3.3%) as well 1 of Crohn's disease, cystic fibrosis, chronic terminal ileitis and chronic gastritis each.

Mean 25(OH)D serum concentration of was $20.04^{+/-10,7}$ ng/mL. In 16.6% (n=5) of total vitamin D deficiency was diagnosed and prevalence of vitamin D insufficiency was found in half of investigated group (46.6%, n=14). From those cases, 50.0% showed osteoporosis, 16.6% osteopenia, and 43.3% delayed bone age. Among patients with delayed bone age, Celiac disease was the most common. Lowest concentration of 25(OH)D was found in case of chronic terminal ileitis, while lowest BMD score belonged to a case with Celiac disease.

Conclusion: In conclusion, our study supports and reveals long term negative effects of chronic GIS diseases on bone metabolism. In our cases, serious osteoporosis detected which could cause spontaneous fractures indicates the seriousness of influence.

We presume that patients with GIS disease should be evaluated thoroughly with respect to bone metabolism. Appropriate treatment has to be started as soon as possible.

Microelemental Status and Psycho-intellectual Characteristics in Children with Chronic Gastritis

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Introduction: Chronic gastritis is one of the most wide-spread gastroenterological pathologies in childhood with the tendency of relapsing and presence of microbiocenotic changes and low level of vital important microelements such as selenium, copper, zink in the period of remission.

Aims & Methods: Aims: To study intellectual peculiarities and psychological parameters in children with chronic gastritis in period of remission.

Methods: For this purpose we used Wechsler Intelligence Scale for Children (WISC) and assessed the level of personal, reactive anxiety (Spilberger's test) and depression in children with chronic gastritis in 6 months after successful eradication of Helicobacter pylori infection.

Results: We studied 80 children with morphologically proved chronic gastritis (boys: girls – 33:47, average age – 13.2±1.8 years). 30 children were taken as a control group (boys: girls – 14:16, average age – 13.06 ±1.2 years).

For children with chronic gastritis the mean values of scale in personal and reactive anxiety were higher than in healthy children (45.08±8.81 vs. 32.59±8.03, p0.05, and 31.36±10.28 vs. 21.81±7.81, p0.05). The similar tendency was found according to the Depression Scale (57.13 ± 11.49 vs. 32.54 ± 8.02, p0.05). The results of verbal IQ, nonverbal IQ and summary IQ were higher in the control group – 131.5±5.68 vs. 119.75 ± 6.34, 97.41±9.54 vs. 89.17 ± 11.85, 117.91± 3.96 vs. 100.92 ± 12.29 accordingly (p0.05).

Positive correlations were found between the results of summary IQ and the serum concentration of copper (r=0.53, p0.05), negative correlations were with the level of Propionibacterium. The intensity of anxiety and depression has negative correlation with the serum concentration of zink and deficiency of Bifidobacterium

Conclusion: Psycho-emotional and intellectual status was affected in children with chronic gastritis and these changes correlate with impairment of microbiocenosis and microelemental status.