investigating the relationship between sleep quality, HRQoL and possible presence of subclinical inflammation in paediatric patients with IBD are warranted.

225

MODERATE-TO-VIGOROUS PHYSICAL ACTIVITY IS ASSOCIATED WITH INCREASED MINERAL BONE DENSITY IN CHILDREN WITH INFLAMMATORY BOWEL DISEASE

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Inflammatory bowel disease (IBD) in children is associated with malnutrition and growth failure. Body composition alterations, such as bone mass deficits, decreased bone mineral density (BMD) and reductions in lean body mass (LBM) have been described. Physical activity (PA) plays an important role in normal growth and development. Moderate-to-vigorous PA (MVPA) has beneficial effects on muscle mass accrual and bone health. Data regarding PA amongst children and adolescents with IBD are scarce. The aim of our study was to evaluate the relationship between PA and body composition in children with IBD in remission.

A total of 33 paediatric IBD patients in remission (20 boys) aged 15.6 ± 1.9 years were included in the study (disease type: Crohn's disease (CD), $n=16$, ulcerative colitis (UC), $n=15$, inflammatory bowel disease-unclassified (IBD-U, $n=2$). Total body less head (TLBH) dual energy X-ray absorptiometry (DXA) was used to measure BMD, expressed as age- and sex-based Z-scores, and to assess fat mass (FM) and LBM, expressed in grams and as age-, sex- and height-based Z-scores. Patients wore a triaxial accelerometer for five consecutive days for objective PA quantification. Daily caloric intake was assessed using a three day food intake record.

Mean BMD Z-score was -0.41 ± 0.88 ; a third of patients had reduced BMD. Mean FM was 15718 ± 6367.2 g; fat mass index (FMI) Z-score -0.40 ± 0.96 ; LBM 37031.2 ± 8596.4 g; mean lean body mass index (LBMI) Z-score -1.83 ± 1.27 . On average, patients spent 38 minutes per day in MVPA. BMD Z-score positively correlated with body height (coef. 0.502, $p=0.003$), body weight-for-age Z-score (coef. 0.742, $p<0.001$), body mass index (BMI) z-score (coef. 0.558, $p=0.001$). BMD Z-score positively correlated LBMI Z-score (coef. 0.758, $p<0.001$) and minutes spent in MVPA (coef. 0.513, $p=0.004$). LBMI Z-score positively correlated with Z-score (coef. 0.758, $p<0.001$ and negatively correlated with cumulative corticosteroid dose (mg/kg/y) (coef. -0.436 , $p=0.011$). No differences regarding anthropometric and body composition parameters were observed between types of IBD. Female patients had statistically lower total LBM compared to male patients, but there was no difference in LBMI Z-scores. No correlation was found between daily caloric intake, daily protein, calcium, phosphorus and vitamin D intake and anthropometric, body composition and bone health parameters.

Positive correlation was found between BMD and lean body mass, as well as between BMD and minutes spent in MVPA. Intervention studies investigating a causal relationship between PA and favourable body composition in paediatric patients with IBD are warranted.

226

METHEMOGLOBINEMIA IN 2 EXCLUSIVELY BREASTFED INFANTS WITH FOOD PROTEIN-INDUCED ENTEROCOLITIS SYNDROME

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Food protein-induced enterocolitis syndrome (FPIES) is a non-immunoglobulin E (IgE)-mediated gastrointestinal food hypersensitivity of infancy, characterized by repetitive profuse vomiting, often in association with lethargy, pallor and diarrhea. It is most commonly caused by cow's milk protein (CMP) and soy. Breastfeeding is suggested to have a protective role, and FPIES to CMP in exclusively breastfed infants is extremely rare. We report 2 cases of FPIES to CMP in exclusively breastfed infants who both had methemoglobinemia.

The first patient, a 6-week old male exclusively breastfed infant, was transferred to our hospital due to the worsening of enterocolitis syndrome.

He presented with persistent bloody diarrhea up to 14 times per day, followed by vomiting and fever.

The second patient was an exclusively breastfed female infant who presented at the age of 2 months to our emergency department for persistent diarrhea, vomiting and anorexia without fever.

Both patients at admission were severely ill, pale, adynamic, somnolent and dehydrated. Laboratory findings showed metabolic acidosis, methemoglobinemia, anemia and hyponatremia. After laboratory work-up he was placed on antibiotics, but without significant improvement in clinical status and with persistent watery diarrhea. All laboratory work up was negative (radiologic findings, all cultures (stool, blood, cerebrospinal fluid, urine)), all performed metabolic and immunologic tests were negative.

Highest MHgb level was 5.7% in patient 1 and 9.1% in patient 2. Due to severe diarrhea patients were paced on total parenteral nutrition and breastfeeding was stopped for the whole day. After that small quantities of elemental formula were slowly introduced. Symptoms improved and after several days breastfeeding was reintroduced with strict elimination of CM from mothers diet.

Specific IgE and skin prick test for milk was negative in both patients and atopy patch test was performed only in patient 2 and was negative. In both patient CM challenge test was performed at the age of 12 month without reaction; since then both patients tolerate milk.

FPIES in exclusively breastfed infants is extremely rare but should be taken into consideration in cases of unexplained severe enterocolitis. Transient methemoglobinemia may occur in such patients and usually does not require treatment.

227

DYSAUTONOMIA IN CHILDREN WITH IRRITABLE BOWEL SYNDROME AND INFLAMMATORY BOWEL DISEASE

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To evaluate the presence of autonomic nervous system abnormalities (ANS) in children with irritable bowel syndrome (IBS)