and quiescence inflammatory bowel disease (IBD) comparing to controls.

Consecutive children with quiescence IBD, IBS and aged
and sex matched healthy controls (HC) were referred for the evaluation of dysautonomia (IBD):

N=24, mean age 15.7 yrs, 16 females; IBS: N=18, mean age 14.8 yrs, 9 females; HC: N=18, mean age 14.2 yrs, 9 females). Dysautonomia was evaluated subjectively with the Composite Autonomic Symptom Score (COMPASS 31), and objectively with the following autonomic tests: heart rate (HR) and blood pressure (BP) responses to the Valsalva maneuver, heart rate response to deep breathing (RSA), blood pressure response to passive tilt, and quantitative sudomotor axon reflex test (QSART). Additionally, heart rate variability (HRV) analysis was performed by Kubios HRV 2.2. Following HRV parameters were compared between the groups in supine and tilted positions: total power of low (LF) and high frequency domain components (HF), normalized HF (HFn), low-to-high frequency ratio (LF/HF), standard deviation of normal-to-normal intervals (SDNN) and percentage of successive RR intervals that differ by more than 50 ms (PNN50).

Children with IBS scored highest on COMPASS-31, followed by patients with IBD and HC (median 15.6, 8.7 and 2.3, respectively, p<0.001). Similar differences were observed in the orhostatic intolerance and gastrointestinal domains of the COMPASS-31. No differences between groups were observed in HR and BP responses to the Valsalva maneuver, RSA and BP response to passive tilt. Children with IBS had higher sweat volumes on proximal lower leg on QSART (median IBD 0.9, IBS 1.5, HC 0.8 µL; p=0.039).

There was no difference in the HRV parameters between groups. However, children with IBS had significantly higher drop in LF (p=0.01) and SDNN (p=0.03) and lowest drop in PNN50 (p=0.01) during tilt test compared to children with IBD and HC.

We found significant subjective and objective ANS abnormalities in children with IBS compared to children with IBD and HC.

228 INCIDENCE AND GEOGRAPHICAL VARIABILITY OF PEDIATRIC INFLAMMATORY BOWEL DISEASE IN CROATIA: DATA FROM THE CROATIAN NATIONAL REGISTRY
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Primary aims of this study were to determine the annual incidence and geographic distribution of pediatric inflammatory bowel disease (IBD), respectively existence of north to south gradient in Croatia as well as baseline characteristics at the time of diagnosis. Secondary aim was to compare data on frequency and distribution of pediatric IBD in two consecutive years.

This is a prospective, cohort, multicenter observational study based on the data obtained from the newly established Croatian national registry for children with inflammatory bowel disease. Children and adolescents younger than 18 years diagnosed with IBD, according to revised Porto criteria, in time period between June 1st, 2016 and May 31st, 2017 were recruited. In order to validate obtained data and to monitor trends in the incidence of the disease, the data were also gathered for the period from June 1st, 2017 to May 31st, 2018.

In season 2016/2017, 51 new cases of pediatric IBD were identified; 19 (37.3%) Crohn’s disease (CD), 28 (54.9%) ulcerative colitis (UC) and 8 (7.8%) IBD unclassified (IBD-U). Male preponderance of all three types of the disease was noticed (CD 52.6%, UC 60.7%, IBD-U 75%). The median age at diagnosis was 14.8 years; 15.3 for CD, 13.9 for UC, and 14.5 years for IBD-U. Female patients were slightly older than males, but without statistically significant difference (p=0.279). With 723,552 children younger than 18 years in Croatia in 2017, the annual incidence of pediatric IBD per 100,000 persons per year was 7.05 (2.62 for CD, 3.87 of UC and 0.55 for IBD-U). The lowest incidence was found in Dubrovnik-Neretva and Split-Dalmatia County (4.50-4.85/100,000 children up to 18 years of age/year), and the highest was found in Međimurje County (22.80/100,000 children up to 18 years of age/year), Existence of north to south gradient was observed with almost two times higher incidence in northern region compared with southern parts of the country (8.38/100,000 vs. 4.26/100,000).

Data from consecutive season (2017/2018) identified 50 new cases of pediatric IBD, with higher proportion of CD (44%) compared to year before.

The incidence of pediatric IBD in Croatia is 7.05 per 100,000 persons younger than 18 years per year, with significant decreasing trend in incidences between northern and southern regions of the country.

229 IBD PHENOTYPE ON DISEASE PRESENTATION AND EARLY DISEASE-COURSE IN PEDIATRIC PATIENTS IN CROATIA: DATA FROM THE CROATIAN NATIONAL REGISTRY
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Aims of this study were to determine the phenotype of pediatric inflammatory bowel disease (IBD) in patients in Croatia at the time of disease presentation, evaluate diagnostic and therapeutic approaches and investigate early disease-course in one-year follow-up.

During a one-year time period (June 1st, 2016 to May 31st, 2017), children and adolescents younger than 18 years of age in Croatia with newly diagnosed IBD were prospectively recruited into Croatian national registry. Data on disease location and behavior (according to Paris classification), diagnostic evaluation and therapy used for inducing and maintaining remission were collected. One-year follow-up data examined relapse rates, as well as modification of medical therapy.

A total of 51 newly diagnosed patients were recruited: 19 (37.3%) Crohn’s disease (CD), 28 (54.9%) ulcerative colitis (UC) and 4 (7.8%) IBD – unclassified (IBD-U). Most common location in CD was ileocolonic (L3) disease in 52.6%, followed by distal 1/3 ileal disease (L1) in 31.6%.
Patients with UC most commonly had pancolitis (E4) (53.6%), and 7.1% presented with ever severe form of the disease (S1). The recommended complete diagnostic algorithm was performed only in 29.4% of our patients.

First line therapy used in CD was exclusive enteral nutrition (EEN) for remission induction (84.2%) and azathioprine for remission maintenance (73.7%). In patients with UC, ami nosacilates were the most common drug used (89.3%). By the end of the first year 41.2% of CD and 53.9% of UC patients had a relapse and required escalation of treatment. Median time to the first relapse was 5 (5-11) months. Following potential risk factors for relapse were examined: age (p = 0.914), Z score height for age (p = 0.087), Pedia tric Crohn’s Disease Activity Index (p = 0.947), Pediatric Ulcerative Colitis Activity Index (p = 0.245), EEN (p = 0.605), but none of them were statistically significant.

Our data confirm extensive intestinal involvement in pediat ric IBD and relatively high relapse rate during the first year of follow-up. More effort should be invested on the national level to implement more stringent adherence to the current European guidelines.

The prevalence of malnutrition in hospitalized children in the last ten years notable decreased. However, the issue of nutri tional status deterioration during hospitalization remains. The aim of this study was to determine the impact of hospitalisation on nutritional and functional status of hospitalised paediatric patients, and to evaluate their energy intake during hospitalization.

We conducted prospective longitudinal cohort study during the period of 1 year in a tertiary University children’s hospita l. Nutritional (body weight and length/height, body mass index) and functional status (handgrip strength (HGS)) were measured on hospital admission and discharge. During hospitalization three-day food diary was recorded (from 3rd day of admission) by dietitian or educated nurse.

367 paediatric patients were included into the study (girls 184, 50.1%; mean age 7.3 years (IQR: 1 month – 18 years), and their median length of stay (LOS) was 7.6 days (IQR: 5–48 days). LOS had a significant negative impact on weight, and 40.9% patients lost on their admission body weight during hospitalization. During the hospital stay 87 (25%) patients had energy intake ≤ 59% RDA, 146 (43%) had energy intake 60 – 89% RDA, and only 110 (32%) of patients had energy intake ≥ 90% RDA. There was no significant difference in nutritional intake between malnourished and eutrophic patients (p=0.102), however severely malnourished patients had significantly lower (p=0.012) energy intake compared to those moderately malnourished. HGS on admission had the positive correlation with BMI Z-score (0.265, p<0.001).

During the hospitalization 59.55% of children older than 6 years lost some of their HGS, however HGS reduction did not significantly correlate with weight loss, energy intake and LOS.

The results of this study confirm a noticeably high prevalence of malnutrition in hospitalized children. Moreover, a sig nificant proportion of paediatric patients lose weight during hospitalization. The implementation of individualized and flexible nutritional support by providing food to the patients according to their age, needs and preferences can contribute to better nutritional intake.

### 230 NUTRITIONAL STATUS IS IMPAIRED, AND NUTRITION INTAKE IS INSUFFICIENT IN CHILDREN HOSPITALIZED IN A TERTIARY REFERRAL CENTRE OF A DEVELOPED COUNTRY

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The study included 30 healthy children (aged 5–9 years) on a lacto-ovo-vegetarian diet and 30 children on an omnivorous diet, who were under medical and dietary control at the Institute of Mother and Child in Warsaw (Poland). Anthropometric measurement, body composition (fat mass, lean mass, bone mineral content) and dietary constituents were assessed in all studied children. Body composition was measured by dual-energy X-ray absorptiometry. Dietary assessment was performed using a nutritional software program Dieta5. Concentrations of bone metabolism markers (osteocalcin – OC, C-terminal telopeptide of collagen type I – CTX) and myokines (myostatin and irisin) were determined in serum samples by immunochemical assay. Statistical analyses were done using Statistica software. This study was approved by the Ethics Committee at the Institute of Mother and Child.

There were no significant differences in the anthropometric parameters: weight, height and body mass index in both studied groups. Compared with omnivores, vegetarians had similar bone mineral contents but lower (p<0.05) lean mass and percentage of fat mass. Average daily dietary energy intake was lower in both studied groups, however, vegetarians had a lower intake of protein and higher intake of carbohydrates compared with omnivores (both p<0.05). The serum concentration of OC was significantly lower in children on a vegetarian diet compared with omnivores (66.9±13.7 vs. 85.2±20.5 ng/mL, p<0.01). Additionally, levels of CTX were higher in vegetarians than in omnivores (1.970±0.341 vs. 1.597±0.351 ng/mL, p<0.01). Serum myokines concentrations did not significantly differ in both studied groups of children.

Vegetarian diets contain many beneficial properties but also carry a risk of inadequate intakes of several nutrients impor tant for muscle and bone health. The links between muscle and bone have been recently intensively examined. Myokines, including myostatin and irisin are cytokines synthesized and released by muscle tissue. It is known that myokines affect bone metabolism, however, the mechanisms of these interactions are not fully understood. The aim of the study was to assess serum concentrations of bone turnover markers and myokines in prepubertal children on vegetarian and omnivorous diets.

The study included 30 healthy children (aged 5–9 years) on a lacto-ovo-vegetarian diet and 30 children on an omnivorous diet, who were under medical and dietary control at the Institute of Mother and Child in Warsaw (Poland). Anthropometric measurement, body composition (fat mass, lean mass, bone mineral content) and dietary constituents were assessed in all studied children. Body composition was measured by dual-energy X-ray absorptiometry. Dietary assessment was performed using a nutritional software program Dieta5. Concentrations of bone metabolism markers (osteocalcin – OC, C-terminal telopeptide of collagen type I – CTX) and myokines (myostatin and irisin) were determined in serum samples by immunochemical assay. Statistical analyses were done using Statistica software. This study was approved by the Ethics Committee at the Institute of Mother and Child.