but we observed slightly higher (by about 15-20%) levels of myostatin and irisin in vegetarians.

Our results show that a well-planned vegetarian diet with proper dairy and egg intake does not lead to changes in bone mass in prepubertal children.

However, children following a vegetarian diet had a higher rate of bone turnover and subtle changes in serum myokine levels.

232 DETERMINANTS OF ENERGY UNDER-REPORTING IN RURAL ADOLESCENTS

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10.1136/archdischild-2021-europaediatrics.232

To assess the extent of under-reporting (UR) in rural adolescents and investigate associated covariates.

A total of 150 adolescents aged 11–17 years were included. Food intake was reported in a 3 d diet record. Socio-economic status, sedentary behaviour and physical activity were collected by questionnaires. Weight height and waist circumference were measured. A body mass index (BMI) was calculated.

Plausibility cut-offs for reported energy intake as a percentage of predicted energy requirements were used to identify under-reporters.

Multivariate logistic regressions investigated the associations between UR and covariates.

The percentages of under- and over-reporters of energy intake were 35.3% and 3.3% respectively. Energy intake was under-reported more in older adolescents and boys. In multivariate analysis UR was associated with BMI and waist circumference Z-scores (OR 1,7 [95% CI 1,1-2,4] and OR 1,5 [95% CI 1,1-2,2] respectively) and participation in sports groups (OR 2,5 [95% CI 1,1-5,4]).

In conclusion, in rural sample under-reporters differ from plausible reporters in several characteristics related to age, sex, weight status and organized physical activity. Therefore, it is important to consider this differential UR bias when investigating diet–disease associations in adolescents.

233 TRANSITORY APLASTIC ANEMIA FOLLOWING ACUTE AUTOIMMUNE HEPATITIS IN A YOUNG BOY

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10.1136/archdischild-2021-europaediatrics.233

Introduction Acute hepatitis associated aplastic anemia (AHAAA) is a rare condition in which acute hepatitis is complicated by development of aplastic anemia. It is more common in young males, and presents with pancytopenia 2-3 months after an episode of acute hepatitis.

The etiology of hepatitis mostly remains unknown and it is thought that aplastic anemia is caused by immune dysregulation provoked by perhaps infection triggered cytokine production that injures hematopoietic stem cells. Options for treating severe AHAAA are bone marrow transplantation or

immunosuppressive therapy (corticosteroids, cyclosporin A, antithymocyte globulin, antilymphocyte globulin).

Case Report We present a case of a previously healthy 10-year old boy, admitted due to sudden onset of jaundice and nausea. Laboratory results showed highly elevated aminotransferase (AST 2089 U/L, ALT 3228 U/L), conjugated hyperbilirubinemia (total bilirubin 391 umol/L, conjugated 302 umol/L) and initially preserved synthetic liver function. Extensive workup excluded infectious, toxic and metabolic causes. Hypergammaglobulinemia was not present, but anti smooth muscle antibodies were positive in two consecutive testing (1:20). Liver biopsy showed unspecific mixed type acute inflammation. In the next few days he developed liver failure (INR 2.6) so immunosuppressive therapy for autoimmune hepatitis (AIH) was initiated (corticosteroids and azathioprine), together with symptomatic therapy (fresh frozen plasma). Due to potential adverse toxic effect (decreased activity of the enzyme thiopurinmethyltransferase) azathioprin was changed to mycophenolate mofetil. In the following weeks patient's synthetic liver function completely recovered and aminotransferase and bilirubin levels improved. Six weeks after initial onset of his symptoms patient developed severe thrombocytopenia and leukopenia followed by mild anemia. Bone biopsy showed hypoplastic to aplastic bone marrow. Screening for opportunistic pathogens revealed positive *Pneumocystis carinii*, and also CMV and VZV reactivation so treatment with trimethoprim-sulfamethoxazole and valganciclovir was started together with antifungal therapy for oral candidiasis. He also required repeated platelet transfusions. After two months his bone marrow started showing signs of recovery and he was discharged from hospital. At last follow up, his leukocyte counts was $4.3 \times 10^9/L$, hemoglobin 142 g/L and platelet count $57 \times 10^9/L$.

Discussion Our patient followed the typical presentation of AHAAA described in the scarce literature. The notable aspect of our case is potentially spontaneous recovery of bone marrow aplasia without the need for bone marrow transplantation. Mycophenolate mofetil might be viable therapeutic step in treatment for this type of disease.

234 CASE OF FOREIGN BODIES IN GASTROINTESTINAL (GI) TRACT

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10.1136/archdischild-2021-europaediatrics.234

Rationale Foreign Body in GI Tract is an emergency state commonly treated in paediatric gastroenterology as well as paediatric surgery departments. Removal techniques (endoscopy vs. surgery) should be always carefully considered.

Patient An 8 year old boy was admitted to our Department because of intentional swallowing 9 magnetic balls (before 5 days). Abdominal pain, numerous vomiting and lack of appetite had been presented.

Intervention After X-Ray he was qualified to gastroduodenoscopy. 9 linearly connected magnetic balls were found. One boarder coated by pyloric mucosa and the second superficially fused with anterior wall of duodenal bulb.

Foreign bodies were successfully removed with Roth net. We discovered horizontal transmucosal ulcer in pylorus and deep penetrating ulcer of duodenal bulb with suspicion of its microperforation.

Further Treatment Physical examination revealed tenderness and muscle rigidity in epigastrium. Microperforation was not radiologically confirmed (2x X-Ray, Abdomen CT). PPI, TPN, Nasogastric aspiration and Antibiotics (Co-Amoxiclav changed into Piperacillin/tazobactam because of WBC and CRP elevation) were ordered. Bradycardia after central venous catheter insertion was periodically observed (treated with Theophylline and Atropine). After 2 weeks oral nutrition was gradually included. No changes in duodenal bulb and proper healing pyloric ulcer were discovered in control endoscopy (after 4 weeks).

Discussion

1. Time of PPI Treatment. Our patient was treated for 8 weeks.
2. Surgical treatment was avoided.
3. Possibly early endoscopic intervention might have been considered (no experience).

235 THE PREVALENCE OF FUNCTIONAL DISEASES OF THE GASTROINTESTINAL TRACT IN CHILDREN OF THE FIRST YEAR OF LIFE LIVING IN THE BELGOROD REGION (RUSSIAN FEDERATION)

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10.1136/archdischild-2021-europaediatrics.235

Goal To study the prevalence of functional disorders of the gastrointestinal tract in children of the first year of life living in the Belgorod region, according to the questionnaire data.

Methods We conducted a survey by questioning 348 women with children aged 1 year to 4 years. All children were born full-term. The ratio of boys to girls was 1: 1 (47.7%/166 boys and 52.3%/ 182 girls).

Results According to the questionnaire, gastroenterological complaints were found in 82.8%/ 288 children. Most often among functional disorders were detected regurgitation syndrome (18.3%/64), infantile colic (74.4%/259) and constipation (33%/115). In 25.9% cases children had two or more functional disorders, more commonly infantile colic plus constipation.

Among the factors predisposing to the development of functional disorders of the gastrointestinal tract, the following were identified: aggravated pregnancy (31.3%) and childbirth (operative delivery – 25.3%), features of the feeding (early termination of breastfeeding up to 3 months of life in 29.8%), antibiotic therapy in the first months of life – 23.6%.

For medical attention/treatment applied 56.25% parents of children with regurgitation, 67.2% parents of children with infantile colic and 57.4% with constipation.

The use of diet in treatment of functional disorders was most effective in patients with regurgitation syndrome (57%) and constipation (41.7%), while in the case of intestinal colic – only in 31.7% of cases.

Conclusion Based on a questionnaire survey of 384 parents of children from

1 year to 4 years, living in the Belgorod region, we found a high frequency of detecting of gastroenterological complaints – in 82.8% of cases. Among the functional diseases of the gastrointestinal tract, the most common were regurgitation syndrome (18.3%), infantile colic (74.4%), and functional constipation (33%). Most often sought medical help parents of

children with infantile colic. The diet was effective in most cases of functional gastrointestinal disorders except in cases of infantile colic

236 NEW NAME, NEW CRITERIA, OLD DISEASE: PAEDIATRIC INTESTINAL PSEUDOObSTRUCTION (PIPO)

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10.1136/archdischild-2021-europaediatrics.236

Introduction Pediatric intestinal pseudoobstruction (PIPO) is a rare and complex gastrointestinal motility disorder affecting mainly the small intestine and the colon resulting in intestinal failure.

Due to severe and recurrent episodes of pseudo-obstruction, children are unable to meet their nutritional needs enterally and might even need parental nutritional support. In 2018, diagnostic criteria were proposed by the European Society for Pediatric Gastroenterology, Hepatology and Nutrition with a goal to improve diagnosis, management and treatment while decreasing morbidity and mortality in these patients.

Case Report We present a case of female infant who was referred to the tertiary center for further medical evaluation due to recurrent abdominal distention and subileus at the age of 6 months. Prenatally, the child was diagnosed with megacystis, later evaluated as hypotonic urinary bladder without vesicourethral reflux and with normal renal function. At four months, she experienced the first intestinal obstruction characterized with severe abdominal distention, stool absence and inability to tolerate enteral feeds. Mechanical obstruction was excluded by radiologic studies. Therefore she was transferred to our center for further diagnostic work-up. In accordance to the guidelines, in our center, rectal biopsy was performed to exclude Hirschsprung's disease. During initial evaluation, the patient experienced a new episode of distention and not tolerating oral feeds.

Radiologic images during the episode showed distended bowel loops throughout the abdomen (Figure 1). She was treated by withholding enteral feed, intravenous fluids and prokinetics. Because of the progressive course of the distension she underwent exploratory laparotomy with formation of decompressive ileostomy at the age of 7 months (Figure 2). Full thickness biopsy were also performed at various site of small and large intestine and showed histological elements of intestinal neuronal dysplasia.

In her further clinical course she experienced 3 more episodes treated conservatively, she was not able to tolerate full enteral feeds so we initiated parenteral nutrition to maintain adequate growth.

In accordance with disease course so far, our patient met 2 out of 4 listed criteria for pediatric pseudointestinal obstruction, persistently dilated loops of small intestine with air fluid and inability to maintain adequate nutrition and growth via enteral feed.

Conclusion To conclude, we present a difficult case of PIPO, with early onset of abdominal distention, need for parenteral nutrition, and bladder involvement with uncertain prognosis.

Nevertheless, early recognition of disorder leads to optimal management including formation of venting stoma, prevention of unnecessary repeated surgeries and better nutritional management.