protein allergy (CMPA). The clinical manifestations of this entity are diverse, thus establishing the diagnosis can be challenging. The aim of our human research is to evaluate and compare commonly performed diagnostic tests regarding CMPA.

Methods Children with symptoms suggesting cow's milk protein allergy were included in this study (n=47). The investigation was performed at the Balassa János County Hospital in Szekszárd, Hungary. Stool samples were collected from the participating children at the time of the diagnosis, and after 3 months of elimination diet. On the first hospital visit, blood samples were drawn for lymphocyte transformation test (LTT), and a skin allergy test was also performed. On the first and third visit, parents were asked to fill in a questionnaire about the child's symptoms, which was constructed by the research team.

Stool samples were analysed with a fecal calprotectin (FC) rapid test. The lymphocyte transformation tests were conducted in an accredited university laboratory. Skin allergy testing was performed in the hospital setting.

Evaluation of the data and the questionnaires was performed with SPSS statistical software.

Results In the study population (n=47, mean age:7.36 years, 42.6% female), skin test was performed on 45 subjects; only 2 children (4.44%) showed positive test result for cow's milk. Positive LTT was observed in 8 children (17%), 4 subjects demonstrated questionable results.

Examining the entire research population, no significant difference in fecal calprotectin values was observed before (mean: 73.98 µg/g, SD: 71.12) and after (mean: 68.11 µg/g, SD: 74.04) the elimination diet (p=0.21). However, after dividing the participants into two subgroups according to the questionnaires, the following was observed: a significant decrease in FC values (p<0.001) was detected in children who strictly followed the diet (n=35) comparing the first (mean: 84.057 µg/g, SD: 79.48) and the second (mean: 41.114 µg/g, SD: 34.24) stool sample.

Conclusion According to our research data, skin allergy testing and LTT are not reliable diagnostic tools for establishing the diagnosis of CMPA. However, fecal calprotectin can be an objective parameter in confirming the diagnosis of allergic colitis in children with CMPA. Significant improvement in clinical symptoms can only be expected after a strictly followed elimination diet.

GP182 ANTHROPOMETRIC INDICATORS AND BODY COMPOSITION IN CHILDREN WITH CEREBRAL PALSY

Razilya Rakhmaeva*, Aelita Kamalova. Kazan State medical university, Kazan, Russian Federation

10.1136/archdischild-2019-epa.243

Aim and objectives of the study Nutritional disorders are frequent in children with cerebral palsy (CP). The main methods for assessing the nutritional status of children with CP are the accurate interpretation of anthropometric indicators and the measures of body composition. We have started a study, which aims to identify features of physical development and body composition in children with CP, depending on motor disabilities.

Patients and methods We assessed weight, height, BMI, tricipital skin fold thickness (TSFT), mid upper arm circumference

(MUAC) and body composition according to bioelectric impedance (BIA) in 34 children. The study included 39 patients (53.85% boys and 46.15% girls) with spastic forms of CP aged 2 to 17 years. Patients were classified according to the form of CP and the results of GMFCS scale. The study group included children receiving physical rehabilitation, living in families, and feeding orally. Height, weight, and BMI were assessed using program WHO Anthro and WHO AnthroPlus.

Results In our study population 10/39 subjects (25.65%) had GMFCS-I, 9/39 subjects (23.1%) had GMFCS-II, 4/39 subjects had GMFCS-III (10.25%), 14/39 subjects had GMFCS-IV (35.9%), 2 subjects had GMFCS-V (5.1%). The mean age was 9 y.o. Mean z-scores were -0.64 (SD 0.84) for weight, -1.17 (SD 0.98) for height, -1.17 (SD 1.1) for BMI, 0.54 (SD 0.62) for MUAC, and -0.29 (SD 0.74) for TSFT. The results of anthropometry revealed 24/39 children with nutritional status disorders: among children with GMFCS-I - only 2/10 children (20%), in children with GMFCS-II -6/9 children (74.35%), in children with GMFCS-III -3/4 children (75%), in children with GMFCS-IV - 11/14 children (78.6%) and both of 2 children with GMFCS-V (100%). Focusing on body composition evaluated by BIA, an additional 7 children with altered body composition were revealed: 3/10 - 2/9 - 0/4 -2/14 accordingly GMFCS levels I-II-III-IV. Mean phase angle (PA) value was 5.5 ± 0.39 with value <5.4 in 13/39 children (33.3%).

Conclusion Nutritional disorders were revealed in 24/39 subjects (61.5%) and 31/39 subjects (79.5%) with altered body composition in this sample of patients with CP. The frequency of detection of nutritional disorders in children with CP is higher in the group with more severe motor disability (GMFCS-IV> GMFCS-II> GMFCS-I). According to the results of BIA, decreased ACM level and PA value are the most sensitive indicators of nutritional status disorders.

GP183 ACHIEVING THE PANACEA IN DIAGNOSING PAEDIATRIC AUTOIMMUNE PANCREATITIS – A CASE STUDY

Graham King*, Emer O'Toole, Kevin O'Hare, Barbara Ryan, Basil El Nazir, Shoana Quinn. Tallaght University Hospital, Dublin, Ireland

10.1136/archdischild-2019-epa.244

Introduction Both in the Republic of Ireland and worldwide paediatric autoimmune pancreatitis (P-AIP) is very rare and its incidence is largely unknown. To date, a few anecdotal cases in Ireland have been diagnosed histopathologically following resection of a pancreatic mass.

Case Report We report the case of a 13yo boy admitted to the paediatric ward with a 4 day history of jaundice and pruritus, and a 2 day history of pale loose stools, dark urine, and vomiting. On examination he also had right upper quadrant abdominal tenderness. His liver profile showed biochemical signs of obstructive jaundice and cholestasis. He had a normal amylase and only mildly raised lipase. Total immunoglobulin level and IgG4 were normal.

Transabdominal ultrasound showed a distended gallbladder and a dilated CBD of 15 mm. MRCP showed a possible 3cm mass in the head of pancreas (HOP) with a normal pancreatic duct.

Our paediatric unit is within an adult hospital with subspecialist pancreatobiliary (PB) expertise including endoscopic ultrasound (EUS). EUS showed that the entire pancreas was expanded and no discrete mass was seen in the HOP. A EUS-

guided fine needle biopsy (FNB) was performed. An ERCP was performed in the same session with insertion of a double pigtail stent into the CBD. However over the following days the patient remained icteric.

Histological samples were reviewed by both the adult and paediatric histopathology departments. The FNB specimens showed benign acinar groups and predominantly neutrophilic inflammatory infiltrate, acinar inflammation and fibrosis. There was no positive IgG4 staining in the few plasma cells.

Once prednisolone was commenced the patient clinically and biochemically improved. A diagnosis of acute autoimmune pancreatitis was made.

Discussion P-AIP presents with very different clinical and biochemical signs compared to adult type. This case report discusses the challenging issue of diagnosing P-AIP in Ireland and worldwide. Currently in Ireland there is no dedicated paediatric EUS service. International expert group consensus statements recommend that ideally P-AIP be confirmed by well-described and pathognomonic histopathological features in a pancreatic biopsy. This case report demonstrates how paediatric patients can benefit from adult subspecialist PB expertise allowing further radiological and histopathological information to achieve a definitive diagnosis of P-AIP. It is important that paediatricians and paediatric surgeons in Ireland and abroad be aware of the benefits of this collaboration in the P-AIP setting.

GP184 THE GERDQ QUESTIONNAIRE FOR DIAGNOSIS OF GASTRO-ESOPHAGEAL REFLUX DISEASE IN CHILDREN

Vladimir Shcherbak*, Tatiana Aksenova, Natalia Shcherbak. *Chita State Medical Academy, Chita, Russian Federation*

10.1136/archdischild-2019-epa.245

Background In recent years, GerdQ (Gastro-esophageal reflux disease Questionnaire) had been used in adults (R. Jones, J. Den, N. Vakil et al), but it has not been used in children before.

The objective is to determine the validity of the GerdQ questionnaire for the diagnosis of gastro-esophageal reflux disease (GERD) in children with symptoms suggestive of GERD.

Methods 63 patients aged 12–17 years with gastroenterological complaints were examined. At first the patients answered GerdQ questions, and then they underwent pH-metry and esophagofibrogastroscopy. According to the developers of the questionnaire, with a score of 8 or more, the likelihood of GERD is high, and 7 and lower is unlikely

Results The following data were obtained from the questionnaire: 0–2 points - 4 patients (6.4%), 3–7 points - 46 (73.0%), 8–10 points - 11 (17.4%), 11–18 points - 2 patients (3.2%).

After instrumental examination among 13 patients with scores ≥ 8 GERD was diagnosed in 9 (69.2%), among 50 children with scores < 8 GERD was excluded in 48 (96%). The sensitivity of the GerdQ questionnaire in children was 69.2% (95% CI: 53–76), specificity - 96% (95% CI: 71–97), which allows recommending it in a wide practice.

Patients with mild complaints may be prescribed a trial treatment with proton pump inhibitors already at the stage of primary treatment, without the use of additional instrumental diagnostic methods. However, this approach is fraught with

certain difficulties associated with a subjective assessment of complaints, both by the patient and by the doctor. For example, patients with severe erosive-ulcerative lesions, metaplasia and dysplasia of the esophageal mucosa may have almost no clinical symptoms, whereas in other cases the abundance of the most diverse complaints actively presented by the patient is not accompanied by endoscopic changes in the mucous lining. In children, the frequency of metaplasia and dysplasia is not so great, although its significance should not be minimized. A reasonable combination of questionnaire and instrumental examination seems reasonable.

Conclusions GerdQ is a useful complementary method for the diagnosis of GERD in children. It could reduce the need for pH-metry and esophagofibrogastroscopy.

GP185 THE DIAGNOSTIC AND PROGNOSTIC VALUE OF THE SHORT-CHAIN FATTY ACIDS IN ROTAVIRUS DIARRHEAS IN INFANTS

Bayaz Babayeva*. *Azerbaijan Medical University, Baku, Azerbaijan*

10.1136/archdischild-2019-epa.246

Introduction Acute intestinal infections have occupied a leading place in the infectious pathology in children so far. The condition of intestinal microbiocenosis is one of the factors that determine the severity of intestinal infection, its duration, the outcome and the timing of rehabilitation from the pathogen. One of the very promising techniques for evaluating intestinal microflora in health and disease is the determination of the metabolic activity of the intestinal microflora from the spectrum of short-chain fatty acids (SCFAs). In various diseases of the gastrointestinal tract, including viral diarrhea, the process of formation, absorption and utilization of SCFAs is disrupted, so their concentrations in feces change. The aim of our research was to specify the content and profile of metabolites of the normal intestinal microflora, as well as to scrutinize their diagnostic and prognostic significance for assessing the severity of rotavirus infection in infants.

Methods We examined 64 infants with rotavirus infection who were hospitalized in the Pediatrics Research Institute. The presence of rotavirus in feces was confirmed by the method of immune enzyme analysis ELISA. 30 healthy children were in the control group. The evaluation of the levels of (SCFAs) and their overall level was carried out by using the method of gas-liquid chromatography.

Results In the acute period of rotavirus infection, there was a significant decrease in the content of acetic [2.478 ± 0.05 mg/ml, $p < 0.001$], propionic [0.545 ± 0.019 mg/ml $p < 0.001$], butyric [0.489 ± 0.019 mg/ml $p < 0.001$] and valerian acids [0.075 ± 0.001 mg/ml $p < 0.001$], as well as the general level of metabolites [3.807 ± 0.076 mg/ml $p < 0.001$]. An inverse correlation was found between the degree of the severity of the disease and concentrations of acetic ($p < 0.05$), propionic ($p < 0.05$), butyric acids ($p < 0.01$), as well as the overall level of metabolites ($p < 0.05$).

Conclusion Our studies have shown that the determination of the metabolic activity of intestinal microflora from the levels and spectra of SCFAs is important for the assessment of microecological bowel disorders in infants with viral diarrhea which can serve as an additional prognostic and diagnostic criterion for the severity of the course of the disease.