(66%) parents wanted to continue with this form of therapy. They found the technique to be uncomplicated, painless and useful. None of our patients became worse or had side effects.

Conclusion Neuromodulation is a noninvasive method which was found to be useful in improving stool regulation by more than half of our patients with chronic intractable constipation when administered as a complementary method to standard therapy and biofeedback. As this study included a small number of patients it would be desirable to plan a prospective study which will actuate a larger number of patients and long-term monitoring.

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FOREIGN BODY INGESTION IN CHILDREN – FIVE YEARS OF EXPERIENCE AFTER THE ADOPTION OF GUIDELINES

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Objective Reevaluation of our experiences in adherence to the established local guidelines in our population of pediatric patients diagnosed with foreign body ingestion.

Methods A retrospective study of patients aged 0-18 years who were admitted to pediatric emergency department of the University Hospital Centre Zagreb between 1.1.2015. and 31.12.2019. due to suspected foreign body ingestion. We grouped them according to their age and localization of the foreign body along the digestive tract. We analyzed how many patients and with what success underwent endoscopy in relation to the applicable guidelines in our Institution.

Results Of the 410 patients with suspected foreign body ingestion, a foreign body was found in 175 patients ($x = 4$ years ± 9 months), more common in male children (100/175). Most of them (78/175, 45%) were in the age group 3-7 years, followed by 1-3 year group (51/175, 29%). Foreign body was localized radiologically in 165 (94%), by endoscopy in 8 (5%) patients, while in the two patients localization hasn't been determined, and there was also one spontaneous foreign body expulsion. Most common foreign bodies were coins in 61 children (35%), followed by another metal object in 51 (29%), button battery in 35 (20%) and plastic object in 7 (4%) patients. In 11 children (6%) it was food bolus impaction, and 10 of them swallowed other objects. Most foreign bodies were localized in the stomach (95 patients, 54%), followed by the small intestine (38 patients, 22%), the esophagus (27 patients, 15%) and the colon (9 patients, 5%). Two toothpicks were found in piriform sinus and tonsils. Endoscopy was performed in a third of patients (59/175; 34%), and it was successful (resulting in foreign body extraction) in 48 of them (81%). In 25/27 of patients with foreign body localized in the esophagus endoscopy was performed, while the two asymptomatic patients were observed. 7/8 patients with food bolus impaction were previously diagnosed with esophageal stenosis. According to guidelines, 41 endoscopies (70%) were warranted and 18 (30%) were not. We compared our results from this period (III) with the two previous ones: before the adoption of guidelines (I) and the early period following the introduction of guidelines (II). The following was shown: endoscopy in 67% of patients with foreign body ingestion

with 77% success rate (I), endoscopy in 20% of patients with 90% success rate, and in 34% of patients with 81% success rate (III).

Conclusion Global experiences suggest that endoscopic extraction is indicated in 10-20% of cases of all foreign body ingestions in children. In the study period, in one third of 34% of patients in which the endoscopy was performed, it was not indicated according to current guidelines. Despite the existence of guidelines, tenacity and the vigilance of adherence to them decreases over time. Their existence by itself is not sufficient in reducing children's exposure to unnecessary and potentially harmful interventions.

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GASTROSCOPY IN PEDIATRICS – 4 YEAR EXPERIENCE

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Objective Comparing the referral diagnosis as an indication for EGD with final histological diagnosis, and to assess whether it was justified to perform these endoscopies in our patients.

Methods Retrospective analysis of patients who underwent gastroscopy with biopsy in the period from 1.1.2016. to 29.02.2020 at the Clinical Hospital Center Zagreb. The study did not include foreign body removal procedures, follow up endoscopies and endoscopies for the purpose of placing medical orthopedic aids. We have described the symptoms leading to referral for endoscopy, as well as their average duration prior to endoscopy. We analyzed the correlation between referral and final histological diagnosis.

Results In a cohort of a total of 100 patients, the most common indication for gastroscopy in 24/100 (24%) was abdominal pain, and in approximately half of them (13/24, 54.2%) the histological cause of the discomfort was found (gastritis in 12 and celiac disease in 1). Of the 20 gastroscopies performed on suspicion of gastritis, in 12/20 (60%) pathological substrate was found (9 gastritis, 2 eosinophilic esophagitis, 1 celiac disease). Due to celiac disease suspicion, we endoscoped 18 patients, of whom in 10 (55.6%) celiac disease was histologically confirmed. In 6/11 (54.5%) patients with dyspeptic symptoms diagnosis of gastritis was made after the endoscopy. In almost half of the patients, the pathohistological finding was normal. From 52 pathological findings; 31/52 (59.6%) corresponds to gastritis, 12/52 (23.1%) to celiac disease, 5/52 (9.6%) to eosinophilic esophagitis, and in 2 patients (3.8%) esophageal varices and stomach polyps were found.

The average duration of discomfort was 10 months and 26 days, while the largest number of patients; 17 of them had symptoms for a year, 16 had problems for 6 months, 9 had symptoms for 2 years, and 8 had symptoms for 1 and 3 months, respectively before the endoscopy. It should be noted that 10 were asymptomatic and were referred for endoscopy on the basis of pathological laboratory findings (complete blood count, iron, antibodies to tissue transglutaminase) or specific anamnesis (body weight loss, failure to thrive). Endoscopy completion rate by entering into the distal end of duodenum was 100%. We did not record any complications.

Conclusion Considering the nonspecific symptoms of the disease that greatly correlate with functional difficulties the number of negative findings is not surprising. But since gastroscopy is the most sensitive method of confirmation/exclusion of the disease itself it is clear that a high number of negative findings point to the necessity of developing clearer guidelines to avoid unnecessary endoscopies. Furthermore, comparing our results with the results of similar foreign studies we can say that we are within the world average and that this indeed is a global problem that requires team effort especially at a time when the number of endoscopic procedures grows rapidly every day due to increased endoscopic possibilities.

283 THE COINCIDENCE OF ROTOR AND GILBERT SYNDROME – A CASE REPORT

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Rotor syndrome is an autosomal recessive hereditary conjugated hyperbilirubinemia characterized by the appearance of mild, intermittent jaundice in otherwise asymptomatic patients. The prevalence of the disease is unknown but is assumed to be very low (<1: 1000000). The diagnosis is made on the basis of elevated levels of conjugated bilirubin and elevated levels of coproporphyrin in the urine, at the expense of coproporphyrin I, with the exclusion of other liver diseases. We will present the case of a seventeen-year-old boy who was hospitalized in our Clinic in 2019. due to cholestatic jaundice that manifested after a short-term febrile illness treated with antibiotics. In 2015., we proved that the young man was heterozygous for Gilbert syndrome (familial benign unconjugated hyperbilirubinemia), but in the initial laboratory findings during this hospitalization we isolated total bilirubin 124 µmol/L of which 104 µmol/L was conjugated (83.8%), which is not a characteristic of Gilbert syndrome. Clinically, he was in good general condition, had normocolored stool with dark orange urine (bilirubin in urine +++). There were no signs of hemolysis, alpha-1-antitrypsin as well as ceruloplasmin arrived at normal values, markers of hepatitis were negative, and synthetic and metabolic function of the liver was preserved. Anti-nuclear antibodies arrived borderline positive (1:80) but all of the other autoantibodies of connective tissue diseases were negative. Microbiological stool analysis (culture, parasite antigen detection) was negative. Abdominal ultrasound and MRCP did not show changes in the morphology of the liver, cholecyst, biliary tree, and pancreatic duct. After all of the diagnostic procedures that excluded other liver diseases (infections, autoimmune diseases, pathomorphological changes in the liver and biliary tree), we assumed that it was another inherited disease of bilirubin metabolism, this time characterized by direct hyperbilirubinemia – Rotor or Dubin Johnson syndrome. To distinguish between the two syndromes, porphyrins were made in 24-hour urine. They were elevated at the expense of coproporphyrin I (527.0 nmol/ dU; ref. Limit 7 nmol/ dU) which supports the diagnosis of Rotor syndrome in a patient diagnosed with Gilbert's syndrome. Researching the available literature, we did not find the coincidences of

Gilbert and Rotor syndrome described so far, but this case warned us that regardless of the rare incidence of Rotor syndrome, it should always be considered in any patient who has chronic but mild hyperbilirubinemia at the expense of conjugated bilirubin.

284 AN UNEXPECTED CAUSE OF VOMITING IN A SIX-YEAR-OLD GIRL

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A six-year-old girl was admitted to Pediatric Intensive Care Unit in University Hospital Centre Osijek, Croatia, because of vomiting and severe hyponatremic dehydration, uremia and oliguria. Per anamnesis, her psychomotor development was normal. Except for having bronchitis, leading to one hospitalisation, she didn't have other serious illness or allergies.

The girl was admitted after 4 days of vomiting, about 10 times in total. She didn't tolerate anything by mouth. Last stool was the day before her admission, normal. She was afebrile, sporadically ill. At the admission, she was conscious, afebrile, severely dehydrated, with sunken eyes, dry mouth and sticky tongue. She had no pain. From the initial laboratory: Na 113, Cl 62, BUN 35, creatinine 289, CRP 41, leukocytes 21; liver enzymes, serum amylase and lipase were normal. Abdominal ultrasound showed hepatic-like kidneys, with erased corticomedullary differentiation, as in acute kidney failure, and a lot of fecal mass in the intestines. Dehydration and hyponatremia were corrected, diuresis improved. Antibiotics were initiated because of elevated inflammatory markers. After the initial improvement, motility problems complicated her recovery. She vomited once daily, and had soft or loose stools. The abdomen was moderately distended. Control abdominal ultrasound showed liquid gastric content, now kidneys were normal, but no peristalsis. The abdominal X-ray showed one aeroliquid level, without distension. Rotavirus was isolated in the stool, which could explain gastroparesis and paralytic ileus. Nasogastric tube was placed, with gastroprotective agents and probiotics. In the following days, severe abdominal distension developed. Oral feeding was stopped, except of minimal feeding via enteral pump, but the intestinal motility did not improve. By then, she had no stool and via nasogastric tube green liquid content was evacuated daily. Nevertheless, her overall condition was stable, she remained afebrile and without pain. On the fourteenth day, endoscopy was performed. The gastroscope was inserted deep in the small intestine, there was liquid content visible aborally, but the site of the obstruction could not be visualised. Colonoscopy showed normal stool in the lumen. Abdominal MR was done, showing severe jejunal distension and transition zone toward ileum (which was normal in width) with suspected foreign body 27x24x38 mm in size, and collapsed colon distally. Surgery was done, and the object that obstructed the lumen of the small intestine was removed – a piece of polyurethane foam. The polyurethane foam is used for filling and sealing in the construction. The girl did not remember swallowing that object, and after the surgery she recovered completely.