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

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Abstract

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 in 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 3 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.

GASTROSCOPY IN PEDIATRICS – 4 YEAR EXPERIENCE

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Abstract

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.

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 (1:100000). 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 umol/L of which 104 umol/L was conjugated (83.8%), which is not a characteristic of Gilbert syndrome. Clinically, he was in good general condition, had normocolorred 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. Antibodies were arrived 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.