

Methods. We enrolled 323 CD children at the diagnosis (M 120; range 16 months–18 years old) out of 1129 patients, who underwent upper endoscopy for gastric and small bowel biopsies. Hp infection was evaluated by histology and by the rapid urease test. Gastric lesions and duodenal biopsies were classified according to the modified Updated Sydney System and to the modified Marsh classification, respectively.

Results. We found lymphocytic gastritis in 44 patients (13.6%). Five of them (11.4%) presented Hp infection (Group 1) while 39 children (88.6%) showed Hp negative gastritis (Group 2). Abdominal pain was present in 3 out of 5 Group 1, and dyspeptic symptoms and/or abdominal pain in 22 out of 39 (56.5%) Group 2 children. In the table are shown histological lesions of the gastric mucosa in Group 1 and 2 patients.

	Mild gastritis (No. (%))	Moderate gastritis (No. (%))	Severe gastritis (No. (%))
Group 1	3 (60%)	1 (20%)	1 (20%)
Group 2	19 (48.7%)	19 (48.7%)	1 (2.6%)

The most frequent duodenal lesion, total villous atrophy (Marsh 3C), was detected in 100% of Group 1 and in 87.1% of Group 2 patients.

Conclusion. We found an association between CD and lymphocytic gastritis (13.6%) studying a large series of children and adolescents with CD. In addition, our results show that Hp infection in CD subjects does not increase the risk of lymphocytic gastritis. This alteration should be a consequence of one or more mechanisms such as immunological disorder or the results of gastric mucosal intolerance to direct gluten contact in gluten-sensitive subjects. Moreover, this lesion is frequent in patients with total villous atrophy and in those with abdominal pain and/or dyspepsia.

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EVALUATION OF A NEW RAPID IMMUNOASSAY FOR THE DETECTION OF *HELICOBACTER PYLORI* IN FAECES IN A PEDIATRIC POPULATION

S. Fico^a, G. Leone^a, A. De Canio^a, N. Bucci^a, C. Fontana^a, C. Cucco^a, G. De Ruvo^a, F. Indrio^a, A.M. Magistà^a, L. Cavallo^b, R. Francavilla^b

^a Dipartimento Di Biomedicina dell'Età Evolutiva, Italy

^b CIRGEE, Università degli Studi di Bari, Italy

Background and aim. *Helicobacter pylori* infection is usually acquired in early childhood and non-invasive methods, easy to perform, are required for its detection. The aim of our study was to evaluate a new immunocromatographic rapid stool test (rapid HPsA; Medimar) in a pre-treatment setting and to compare it with a gold standard and with validated laboratory tests (stool and breath tests) for its accuracy in diagnosing *Helicobacter pylori* infection in children.

Patients and methods. We enrolled 36 children [M 19; median age 8.9 months (range 3.6–13.8)] referred to our department with gastrointestinal symptoms (epigastric pain, stomach ache, nausea and halitosis). All children underwent the following investigations: upper gastrointestinal endoscopy, 13C-urea breath test (13C-UBT), ELISA stool antigen test (Meridian Diagnostic, Inc.) and rapid stool test (rapid HPsA; Medimar). The gold standard was a positive histology. The test was done according to the manufacturer's instructions.

Results. Overall, histology was positive for 14 patients (38.8%) and urea breath test was positive for 15 patients (41.7%). Stool antigen test and rapid stool test were both positive for 13 children (36.1%). Compared to histology the sensitivity of rapid stool test was 92%; the specificity was 100%, positive predictive value 100% and negative predictive value 96%. Compared to 13C-UBT the sensitivity, specificity, positive predictive value and negative predictive value of new rapid test were 87%, 100%, 100% and 91% respectively. Elisa based HPsA and rapid HPsA performed equally in all children.

Conclusions. The new rapid HPsA test seems a reliable method for detecting *H. pylori* in untreated patients. It is easy and can be performed

quickly. These characteristics might be a breakthrough for diagnosing *H. pylori* in the general paediatrician's office.

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PA 15

DOES IMMUNOGLOBULIN A ANTI-TRANSGLUTAMINASE PREDICT THE MUCOSAL DAMAGE IN CHILDREN WITH COELIAC DISEASE?

A. De Canio^a, N. Bucci^a, G. Leone^a, S. Fico^a, C. Fontana^a, G. De Caro^a, C. Cucco^a, F. Indrio^a, D. Intini^a, L. Cavallo^b, R. Francavilla^b

^a Department Di Biomedicina dell'Età Evolutiva, Università degli Studi di Bari, Italy

^b CIRGEE, Università degli Studi di Bari, Italy

Background and aim. In children the correlation between anti-transglutaminase (tTG) and the degree of mucosal damage has been postulated (Diamanti A, Pediatrics, 2006;118:e1696). The aim of our study was to assess if the titre of serum IgA anti-transglutaminase (tTG-IgA) is useful to assess the level of mucosal damage in patients affected by celiac disease (CD) or the presence of mucosal atrophy.

Materials and methods. All children diagnosed as having CD according to the ESPGHAN criteria in the last 5 years in our centre were enrolled. Patients with IgA deficiency were excluded. TTG-IgA were measured with an ELISA kit (Eu-tTG; Eurospital, Trieste, Italy) and considered to be positive if >7 IU/ml. Histology was reviewed and scored according to the Marsh classification. Overall 175 children were enrolled [median age 4.5 years (11 months–16.6 years)]. Histology showed a type 1 lesion in patients, type 1 in 4 (2.3%), type 2 in 9 (5.2%), type 3a in 18 (10.4%), type 3b in 53 (30.6%) and type 3c in 89 patients (51.4%).

Results. Overall the median titres of tTG-IgA according to histology were: type 1 = 19.4 IU/ml (range 9–24.4); type 2 = 20.0 IU/ml (range 11.2–26.5); type 3a = 17.4 IU/ml (range 7.2–29.0); type 3b = 20.6 IU/ml (range 8.8–28.8); type 3c = 20.5 IU/ml (range 7.9–27.9). We found no difference either in the median tTG-IgA titre and histological lesion (Kruskal–Wallis $p=0.2$) or in the median tTG-IgA titre and presence/absence of mucosal atrophy (21.3 IU/ml vs. 19.3 IU/ml; $p=0.7$).

Conclusions. Our study shows no correlation between tTG-IgA levels and histological mucosal lesion thus reinforcing the need for the duodenal biopsy to confirm the diagnosis.

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PA 16

PATCH TEST POSITIVE FOR COW'S AND HUMAN MILK IN SEVERE ENTEROCOLITIS IN AN EXCLUSIVELY BREAST-FED INFANT

S. Lucarelli^a, O. Borrelli^a, L. Cordischi^a, T. Federici^a, T. Frediani^b, J. Dognini^a, S. Cucchiara^a

^a Department of Pediatrics Gastroenterology Division "La Sapienza" University of Rome, Italy

^b Allergy and Immunology Division, "La Sapienza" University of Rome, Italy

It has been recognized for approximately 70 years that substances can be passed on from mother to child via breast milk and cause adverse reactions in the latter. Infantile colitis can be caused by allergy to cow's milk protein or other food products.

The authors describe the case of a 6-month-old male infant who presented profuse rectal bleeding. Colonoscopy revealed colonic mucosa that was red, oedematous and friable with widespread erosive lesions. Mucosal biopsy specimens revealed intra-epithelial eosinophilic granulocytes and a widespread increase of lymphomonocytes in the lamina propria.

When admitted for observation, the child had a history of rectal bleeding starting at the age of 3 months, when still fed exclusively on mother's milk.

This symptom continued even though the mother began to observe a strict diet free of cow's milk proteins. The appearance of large amounts of blood in the faeces led to hospitalization in the Division of Pediatric Gastroenterology, where the child was subjected to laboratory tests, all normal, except for marked anaemia. While prick tests for cow's milk protein and RAST proved negative, the patch test carried out with cow's milk and mother's milk was clearly positive. The possibility of viral and bacterial infections capable of accounting for the endoscopic findings was ruled out.

The positive result of the patch test for maternal milk suggested the transmission of food antigens, possibly differing from cow's milk, leading to the continuation of the colitic symptoms despite the exclusion diet observed by the mother.

The condition of clinically evident rectal bleeding cleared up in 4–5 days after the replacement of maternal milk with a formula consisting solely of amino acids (Neocate, Nutricia). The second endoscopy, carried out 15 days after the first, showed the disappearance of the erosive lesions with the persistence of slight erythema but no friability of the mucosa.

The clinic follow-up carried out after an interval of 6 months showed the absence of symptoms, regular increase in weight and no blood in the faeces on the gradual introduction of foodstuffs including cow's milk.

This case appears to bear out the hypothesis that in breast-fed children, even at an early age, the foodstuffs passed on through maternal milk can lead to severe enteropathy mediated by a delayed type of immunological mechanism.

The use of the patch test in the absence of immunological mechanisms of reaginic type, as in our case, can prove a simple and useful aid in arriving at the diagnosis of food allergy.

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PA 17 SEDOANALGESIA IN LOWER ENDOSCOPY: A REAL NEED?

B. Bizzarri^a, F. Fornaroli^a, N. de' Angelis^b, A. Ghiselli^a, C. Favagrossa^a, G.L. de' Angelis^a

^a Pediatric Gastroenterology Unit, University of Parma, Italy

^b General Surgery, University of Parma, Italy

Aim. Many gastrointestinal pathologies, as inflammatory bowel disease (IBD), polyposis and intestinal bleeding, can have ileal localization and they need an accurate study of the distal ileum. The aim of this study is to evaluate diagnostic efficacy, completeness, safety, patient's tolerability of ileo-colonoscopy in paediatric and juvenile age using sedo-analgesia administered by the anaesthetist.

Methods. In a period of 6 years, between May 2001 and May 2007, at Paediatric Gastroenterology Unit of Parma, 394 colonoscopy were performed by the same high-experience paediatric endoscopist on 233 patients (95 male, 138 female, mean age 13.5 years, range 3–21 years) using sedation analgesia. The drugs were administered by the anaesthetist, who monitored the patient during the whole exam, keeping life parameters (ECG, O₂ saturation, CO₂, respiratory frequency, cardiac frequency) monitored. All exams were performed in the endoscopic room. Suspected or known IBD (268 cases, 68%), suspected or known polyposis (43 cases, 11%), intestinal bleeding (83 cases, 21%) were the main indications for total colonoscopy. Exam completeness (ileum or ileal-caecal valve visualization and biopsy), causes of failure, percentage of ileal pathological findings (both macroscopically and histologically), side effects, patients' or parents' satisfaction were valued in each exam.

Results. Ileal-caecal valve was reached in 75 cases (19%), ileum was visualized in 256 cases (65%). In 23 cases ileum-caecal valve showed macroscopical pathological findings, confirmed by the histopathological exam (22 cases of Crohn's disease (CD) and 1 case of ulcerative pancolitis). Three cases presented only histological findings. In 103 cases ileum was macroscopically interested by disease, in 12 cases only histological findings were found. Twenty-three patients, affected by CD, had just terminal ileum localization and 12 patients had histological diagnosis thanks to ileum biopsy. The exam was not complete in 63 cases (16%) and the main causes of incom-

pleteness were stool (75%), severe mucosal lesions or presence of luminal stenosis (16%), technical problems or bowel tortuosity, particularly because of post-surgical adhesions (9%). No side effects due to drugs or to endoscopy were reported. No patients referred discomfort after the exam.

Conclusions. The routine availability of sedo-analgesia in lower endoscopy showed to be a diagnostic improvement. Indeed thanks to patient pain control and continuous anaesthetist monitoring, the endoscopist can take care only of endoscopical performance, and it produces better diagnostic results and main patients satisfaction.

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PA 18 EOSINOPHILIC OESOPHAGITIS: AN ICEBERG TO FIND OUT

B. Bizzarri^a, F. Fornaroli^a, B. Magiteri^a, N. de' Angelis^b, F. Vincenzi^a, V. Maffini^a, G.L. de' Angelis^a

^a Pediatric Gastroenterology Unit, University of Parma, Italy

^b General Surgery, University of Parma, Italy

Background and aim. Eosinophilic oesophagitis (EE) is a recently recognized disorder characterized by the accumulation of eosinophils in the oesophagus. EE is a disease of escalating incidence but little is known about this disease. Symptoms of EE may be indistinguishable from those of gastro-oesophageal reflux but the two diseases are distinct in terms of histopathology (prominent intraepithelial eosinophils, particularly superficial with clustering) and patients with EE are not responsive to standard or aggressive reflux medications. Therapeutic options of EE include elemental diet, pharmacologic treatments, such as oral and topical corticosteroids and anti-cytokine treatment and the most significant complication of EE is stricture formation. The aim of the study is to determine the clinical, endoscopic and histological criteria that distinguish children with EE from those with non-EE diagnoses.

Patients and methods. From January 2005 to December 2006, 867 paediatric patients with dysphagia and/or reflux symptoms underwent upper endoscopy with oesophageal biopsy at Pediatric Gastroenterology Unit, University of Parma. The range of age varied from 1 year to 18 years with a mean age of 8.7 years. The endoscopic and histological findings have been analysed.

Results. Two biopsy of the distal oesophagus were sampled in all patients. In 10 (8 male, 2 female) of these patients (1.1%), the histological examination demonstrated an accumulation of eosinophils with tissue eosinophilia ≥ 20 eosinophils per high-power field (hpf) on light microscopy. In all of these 10 patients the endoscopic findings was not specific: 3 exams showed stipple-like exudates, 4 exams showed linear fissures, 2 exams showed oesophageal pallor and one exam showed a oesophageal not tight stricture.

Conclusions. The endoscopic findings are absolutely aspecific and therefore biopsies from the oesophageal mucosa must be taken to confirm the diagnosis of EE. Since the EE is a disease of escalating incidence, but still rare and little is known about it, physicians evaluating paediatric patients with chronic gastrointestinal symptoms should consider the diagnosis of EE. Probably it is necessary a multicentric study to establish an accurate endoscopic and histological classification to permit a correct diagnosis, since the pharmacological therapy is different.

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