1. J Coll Physicians Surg Pak. 2019 Feb;29(2):173-174. doi: 10.29271/jcpsp.2019.02.173.

Intestinal Spirocheteosis in a Patient with Celiac Disease.

Majid Z(1), Khalid MA(1), Khan SA(1), Achakzai IK(1), Soomro GB(1), Luck NH(1).

Author information:
(1)Department of Hepato-Gastroenterology, Sindh Institute of Urology and Transplantation (SIUT), Karachi, Pakistan.

A young girl presented to us with recurrent diarrhea along with a history of 5 kg weight loss in one year. On examination, she appeared pale, while her laboratory reports showed a low hemoglobin, mean corpuscular volume (MCV) and serum albumin. Her erythrocyte sedimentation rate (ESR) was slightly raised with her iron profile suggestive of iron deficiency anemia. Viral markers, human immunodeficiency virus (HIV) serology along with thyroid profile were all unremarkable. There was no history of tuberculosis, and purified protein derivative (PPD) skin test was also negative. Computed tomography (CT) abdomen showed thickening of the terminal ileum with multiple enlarged lymph nodes. An esophagogastroduodenoscopy (EGD) along with colonoscopy was done. Multiple biopsies were taken, which were suggestive of sprue along with intestinal spirochetosis. Her tissue transglutaminase (TTG) was negative while deamidated gliadin peptide (DGP) was positive. She was kept on gluten-free diet and started on tablet metronidazole. This case shows that intestinal spirochetosis should be kept in mind in patients belonging to lower socio-economic status, who present with chronic diarrhea symptoms.

DOI: 10.29271/jcpsp.2019.02.173
PMID: 30700359

2. Plant Physiol. 2019 Jan 29. pii: pp.00771.2018. doi: 10.1104/pp.18.00771. [Epub ahead of print]

Development of decreased-gluten wheat enabled by determination of the genetic basis of lys3a barley.

Moehs CP(1), Austill WJ(2), Holm AP(3), Large TAG(3), Loeffler DP(3), Mullenberg JC(3), Schnable PS(4), Skinner W(5), van Boxtel J(5), Wu L(5), McGuire C(5).

Author information:
(1)none CITY: Seattle STATE: Washington United States Of America [US] cpmmoe@gmail.com.
(2)Arcadia Biosciences CITY: Seattle STATE: WA United States Of America [US].
(3)Arcadia Biosciences CITY: Seattle STATE: Washington United States Of America [US].
(4)Iowa State University 2035B Carver Co-Laboratory CITY: Ames STATE: Iowa POSTAL_CODE: 50011-3650 United States Of America [US].
(5)Arcadia Biosciences CITY: Davis STATE: CA United States Of America [US].

Celiac disease is the most common food-induced enteropathy in humans, with a prevalence of approximately 1% worldwide. It is induced by digestion-resistant, proline- and glutamine-rich seed storage proteins, collectively referred to as "gluten," found in wheat (Triticum aestivum). Related prolamins are present in

barley (Hordeum vulgare) and rye (Secale cereale). The incidence of both celiac disease and a related condition called non-celiac gluten sensitivity (NCGS) is increasing. This has prompted efforts to identify methods of lowering gluten in wheat, one of the most important cereal crops. Here, we used bulked segregant RNA-seq (BSR-seq) and map-based cloning to identify the genetic lesion underlying a recessive, low prolamin mutation (lys3a) in diploid barley. We confirmed the mutant identity by complementing the lys3a mutant with a transgenic copy of the wild-type barley gene and then used targeting induced local lesions in genomes (TILLING) to identify induced single-nucleotide polymorphisms (SNPs) in the three homoeologs of the corresponding wheat gene. Combining inactivating mutations in the three subgenomes of hexaploid bread wheat in a single wheat line lowered gliadin and low molecular weight glutenin accumulation by 50-60% and increased free and protein-bound lysine by 33%.

DOI: 10.1104/pp.18.00771
PMID: 30696748

3. Prostate Cancer Prostatic Dis. 2019 Jan 28. doi: 10.1038/s41391-019-0130-9. [Epub ahead of print]

Androgen deprivation therapy for prostate cancer and the risk of autoimmune diseases.

Liu JM(1)(2)(3), Yu CP(4), Chuang HC(1), Wu CT(5), Hsu RJ(6)(7)(8).

Author information:
(1)Division of Urology, Department of Surgery, Taoyuan General Hospital, Ministry of Health and Welfare, Taoyuan, Taiwan.
(2)Faculty of Medicine, National Yang-Ming University, Taipei, Taiwan.
(3)Graduate Institute of Life Sciences, National Defense Medical Center, Taipei, Taiwan.
(4)Department of Pathology and Graduate Institute of Pathology and Parasitology, Tri-Service General Hospital, National Defense Medical Center, Taipei, Taiwan.
(5)Department of Urology, Chang Gung Memorial Hospital, Keelung, Taiwan.
(6)Graduate Institute of Life Sciences, National Defense Medical Center, Taipei, Taiwan. hsurnai@gmail.com.
(7)Department of Pathology and Graduate Institute of Pathology and Parasitology, Tri-Service General Hospital, National Defense Medical Center, Taipei, Taiwan. hsurnai@gmail.com.
(8)Cancer Medicine Center of Hualien Tzu Chi Hospital, Tzu Chi University, Hualien, Taiwan. hsurnai@gmail.com.

BACKGROUND: Androgen deprivation therapy (ADT) has been a mainstay of treatment for advanced prostate cancer (PCa), but limited studies have been performed to investigate the association between ADT and autoimmune diseases.
METHODS: We conducted a population-based nationwide cohort study of 17,168 patients newly diagnosed with PCa between 1996 and 2013 using the National Health Insurance Research Database (NHIRD) of Taiwan. Cox proportional hazards models with 1:1 propensity score-matched analysis were used to investigate the association between ADT use and the risk of autoimmune diseases. The autoimmune diseases included Graves' disease, Crohn's disease, psoriasis, systemic lupus erythematosus, rheumatoid arthritis, ankylosing spondylitis, Guillain-Barre syndrome, Sjogren's syndrome, myasthenia gravis, pernicious anemia, hereditary

hemolytic anemia, polyarteritis nodosa, Celiac disease, uveitis, polymyalgia rheumatica, dermatomyositis, Hashimoto's thyroiditis, hypersensitivity vasculitis, Behcet's disease, polymyositis, alopecia areata, Wegener's granulomatosis, ulcerative colitis, autoimmune hemolytic anemia, pemphigus, multiple sclerosis, systemic sclerosis, Goodpasture syndrome, giant cell arteritis, thromboangitis obliterans, arteritis obliterans, and Kawasaki disease. The duration of ADT use as a time-dependent variable was also examined for its association with autoimmune diseases. We also performed six secondary analyses.
RESULTS: Of the 17,168 selected PCa patients, 14,444 patients met all the inclusion and exclusion criteria. After propensity score matching, 5590 ADT users and 5590 non-ADT users were included in the study cohort. A propensity score-matched analysis (adjusted hazard ratio (aHR), 0.619, 95% confidence interval (CI), 0.51-0.75, P < 0.001) demonstrated a significantly decreased risk of autoimmune diseases in ADT users. A significant decrease in the risk of autoimmune diseases with increasing ADT duration was also demonstrated (P < 0.001).
CONCLUSIONS: We observed that ADT use in patients with PCa was associated with a decreased risk of autoimmune diseases. These novel findings provide a potential role for androgen deprivation therapy in the modification of inflammation and autoimmunity in Asian patients with prostate cancer.

DOI: 10.1038/s41391-019-0130-9
PMID: 30692587

4. Gastroenterol Nurs. 2019 Jan/Feb;42(1):55-64. doi: 10.1097/SGA.0000000000000368.

Is Adherence to a Gluten-Free Diet by Adult Patients With Celiac Disease Influenced by Their Knowledge of the Gluten Content of Foods?

Paganizza S(1), Zanotti R, D'Odorico A, Scapolo P, Canova C.

Author information:
(1)Stefania Paganizza, MSN, RN, is with Department of Surgery, S. Antonio Hospital, Padova, Italy. Renzo Zanotti, PhD, is with Department of Molecular Medicine, University of Padova, Padova, Italy. Anna D'Odorico, MD, is with Department of Surgical, Oncological and Gastroenterological Sciences, University of Padova, Padova, Italy. Paola Scapolo, BSND, is with UOC Dietetics and Clinical Nutrition, Azienda Ospedaliera Padova, Padova, Italy. Cristina Canova, PhD, is with Department of Molecular Medicine, University of Padova, Padova, Italy; Department of Cardiac, Thoracic and Vascular Sciences and PublicHealth, University of Padova, Padova, Italy.

The aim of this study was to investigate adherence to a gluten-free diet and potentially associated factors, focusing on the relationship between adherence and knowledge of the gluten content of foods and of celiac disease in general. A questionnaire was completed by adult patients diagnosed with celiac disease including demographics, dietary practices, sources of information, and attitude to the disease. Their knowledge of disease and gluten-free diet was assessed using a newly developed scale comprising 31 statements on celiac disease in general and foods appropriate in a gluten-free diet. A validated questionnaire was used to measure adherence to diet. One hundred four patients with celiac disease took part in the study, 65% of them reported strictly adhering to a gluten-free diet. Factors associated with adherence were membership of the Italian Celiac Association and receiving support from this association, Internet, and social media. Patients' knowledge regarding celiac disease and gluten-free diet was generally poor: one patient answered all questions correctly. Knowledge

of celiac disease and gluten-free diet was strongly and significantly associated with adherence to a gluten-free diet. The association between knowledge of celiac disease and gluten-free diet in patients with celiac disease and their adherence to the diet suggests the promotion of education and behavioral programs.

DOI: 10.1097/SGA.0000000000000368
PMID: 30688709

5. Gastroenterol Nurs. 2019 Jan/Feb;42(1):E3-E4. doi: 10.1097/SGA.0000000000000451.

Current Evidence in the Diagnosis and Treatment of Children With Celiac Disease.

[No authors listed]

DOI: 10.1097/SGA.0000000000000451
PMID: 30688707

6. Gastroenterol Nurs. 2019 Jan/Feb;42(1):41-48. doi: 10.1097/SGA.0000000000000365.

Current Evidence in the Diagnosis and Treatment of Children With Celiac Disease.

Gallegos C(1), Merkel R.

Author information:
(1)Cara Gallegos, PhD, RN, is an Assistant Professor in the School of Nursing, College of Health Sciences, Boise State University, Boise, Idaho. Rachel Merkel, DNP, RN, CNE, is an Associate Professor of Nursing, University of Wisconsin-Eau Claire, College of Nursing and Health Sciences.

Recent statistics report that 3 million people, or 1% of the population in the United States (U.S.), are affected by celiac disease (CD). In addition, in the U.S., as many as 1 in 80 children is affected with CD. However, CD can be challenging to diagnose and many children are not correctly diagnosed or live without a diagnosis for several years. Symptoms, if present, are often nonspecific and may be common manifestations of many pediatric illnesses. The purpose of this review is to examine the current evidence regarding incidence, pathophysiology, diagnosis, and treatment of a child with CD. Clinical implications for nurses caring for children and families are discussed.

DOI: 10.1097/SGA.0000000000000365
PMID: 30688706

7. J Vasc Surg. 2019 Feb;69(2):462-469. doi: 10.1016/j.jvs.2018.04.062. Epub 2018 Jun 28.

Inability of conventional imaging findings to predict response to laparoscopic release of the median arcuate ligament in patients with celiac artery compression.

Patel MV(1), Dalag L(2), Weiner A(2), Skelly C(3), Lorenz J(2).

Author information:
(1)Department of Radiology, University of Chicago Medicine, Chicago, Ill. Electronic address: mikin.patel@northwestern.edu.

(2)Department of Radiology, University of Chicago Medicine, Chicago, Ill.
(3)Department of Surgery, University of Chicago Medicine, Chicago, Ill.

OBJECTIVE: The objective of this study was to identify duplex ultrasound (DUS) or computed tomography angiography (CTA) imaging findings that can predict clinical response to laparoscopic release of the median arcuate ligament (MAL) in patients with celiac artery compression.
METHODS: There were 299 patients who were evaluated for MAL syndrome (MALS) between January 2009 and November 2015. Of these, 29 underwent laparoscopic MAL release and completed 1-year follow-up. The patients' preoperative and postoperative symptoms, use of analgesics, and body mass index were recorded. Patients' demographics and DUS and CTA findings were reviewed. Fisher exact and Student t-tests were used to identify correlation between patient or imaging variables and clinical outcomes.
RESULTS: There were 19 patients (66%) who reported improvement in symptoms, and 18 (62%) decreased their use of analgesics; average body mass index increased by 0.2 (standard deviation, 1.97; range, -3.35 to 5.11). No celiac artery DUS finding (peak celiac artery velocity, angle of deflection, or change in preoperative to postoperative velocity) was predictive of successful clinical outcomes ($P > .05$). Similarly, no CTA finding (characteristic morphology, cross-sectional area, diameter, or location of the focal stenosis of the celiac artery) was associated with clinical outcomes ($P > .05$).
CONCLUSIONS: Clinical response to laparoscopic MAL release was favorable in two-thirds of patients; however, no specific imaging finding of stenosis was predictive of this response. Given that the severity of stenosis on conventional imaging had no impact on treatment efficacy, vascular compromise may not be the primary cause of pain in patients presenting with this syndrome. Future investigation incorporating the neurogenic basis of MALS pain, such as with diagnostic celiac ganglion blockade, would be helpful in further elucidating the enigmatic pathophysiologic process of MALS.

DOI: 10.1016/j.jvs.2018.04.062
PMID: 30686339

8. Ann Vasc Surg. 2019 Jan 23. pii: S0890-5096(19)30019-6. doi: 10.1016/j.avsg.2018.09.033. [Epub ahead of print]

Endovascular treatment of ruptured pancreaticoduodenal artery aneurysm with celiac axis stenosis.

Zhang X(1), Zhang W(1), Zhou W(2), Zhou W(1).

Author information:
(1)Department of Vascular Surgery, the Second Affiliated Hospital of Nanchang University, Nanchang, Jiangxi, China.
(2)Department of Vascular Surgery, the Second Affiliated Hospital of Nanchang University, Nanchang, Jiangxi, China. Electronic address: drzwm@sina.com.

BACKGROUND: Splanchnic artery aneurysms are relatively rare diseases. Pancreaticoduodenal arterial (PDA) aneurysms are especially uncommon and account for approximately 2% of all visceral aneurysms. However, rupture of a PDA aneurysm often results in fatal consequences. Intervention therapy has evolved as a mainstream method due to its low risk and rapid recovery. Previous studies have

demonstrated that PDA aneurysms are often associated with occlusion or stenosis of the celiac artery, but management of the celiac artery lesion remains controversial. Here, we report a Case of PDA aneurysm concurrent with celiac axis stenosis (CAS) that has been successfully treated by embolization of the PDA aneurysm and subsequent stenting of the celiac artery.
CASE PRESENTATION: A 50-year-old man complaining of epigastric pain for 15 hours was admitted to our emergency department. Blood tests revealed low hemoglobin, and an abdominal computed tomography (CT) showed a retroperitoneal hematoma. To determine the source of bleeding, celiac arteriography was performed immediately. Celiac truck stenosis was observed, and a PDA ruptured aneurysm was diagnosed. The outflow, aneurysm sac and inflow of the aneurysm were embolized. The patient was discharged on the sixth day postoperatively. Unfortunately, the patient returned to our department two weeks later complaining of nausea and vomiting for two days. The abdominal CT scan showed no recurrent bleeding. Celiac artery stenting was performed, and the symptoms were significantly relieved. The postoperative course was uneventful, and the CT scan follow-up at 24 months showed patency of the celiac artery stent and total occlusion of the PDA.
CONCLUSION: PDA aneurysms associated with celiac stenosis are relatively rare. Once the PDA aneurysm ruptures, endovascular treatment is the first choice. The necessity for revascularization of the celiac axis remains controversial. If the patient develops gastric ischemia symptoms after initial treatment, proceeding to CAS treatment is necessary.

DOI: 10.1016/j.avsg.2018.09.033
PMID: 30684620

9. Am J Case Rep. 2019 Jan 26;20:111-116. doi: 10.12659/AJCR.913207.

Olmesartan Associated Enteropathy: A Rare Underdiagnosed Cause of Diarrhea and Weight Loss.

Gonakoti S(1), Khullar S(2), Rajkumar A(1).

Author information:
(1)Department of Internal Medicine, North East Ohio Medical University, Canton Medical Education Foundation, Canton, OH, USA.
(2)Department of Internal Medicine, North East Ohio Medical University, Rootstown, OH, USA.

BACKGROUND Olmesartan, an angiotensin receptor blockade class of antihypertensive medication has recently been associated with a seronegative sprue like enteropathy. Patients typically present with diarrhea and weight loss often prompting exhaustive diagnostic workup. Discontinuation of the drug leads to dramatic recovery and hence, physicians need to be aware of olmesartan associated enteropathy (OAE) in order to avoid unnecessary testing. CASE REPORT A 59-year-old Caucasian male was admitted to the hospital with complaints of intractable diarrhea, vomiting and considerable weight loss. Medical history was notable for hypertension being treated with olmesartan. Workup for all potential infectious causes and celiac disease was negative. Eventually, a colonoscopy was performed due to his persistent symptoms and biopsy revealed lymphocytic colitis. An upper endoscopy was also performed, and histopathology of the duodenum revealed total villous blunting. In light of negative serology for celiac disease and after a detailed review of the patient's medications, the possibility of olmesartan induced enteropathy was considered. Olmesartan was stopped and his

symptoms resolved. A follow-up endoscopy done a few months later showed normal small bowel mucosa. CONCLUSIONS This case demonstrates the need for a thorough medication review by healthcare providers especially after a full workup for the patient's symptoms has already been performed. It also reiterates that having an awareness of rare side effects of common medications mitigates the need for extensive diagnostic testing.

DOI: 10.12659/AJCR.913207
PMID: 30683835

10. Public Health. 2019 Jan 22;167:147-151. doi: 10.1016/j.puhe.2018.11.004. [Epub ahead of print]

Content of widely viewed YouTube videos about celiac disease.

Basch CH(1), Hillyer GC(2), Garcia P(3), Basch CE(4).

Author information:
(1)Department of Public Health, William Paterson University, Wayne, NJ 07470, USA. Electronic address: baschc@wpunj.edu.
(2)Department of Epidemiology, Mailman School of Public Health, Columbia University, NY 10032, USA.
(3)Department of Public Health, William Paterson University, Wayne, NJ 07470, USA.
(4)Department of Health and Behavior Studies, Teachers College, Columbia University, NY 10027, USA.

OBJECTIVE: To describe the most widely viewed English language videos related to celiac disease on YouTube.
STUDY DESIGN: This is a cross-sectional study.
METHODS: Videos sorted by number of views yielded the 100 most widely viewed. Number of views, source (consumer, professional, or news agency), and inclusion of specific content were recorded.
RESULTS: Collectively, the 100 videos were viewed nearly 7 million times. Between 2007 and 2010, 28% were uploaded, while more than 70% were uploaded after 2010. Professionals uploaded almost half (48%), consumers posted 32%, and news sources posted the remaining 20%. While gluten-containing foods/drinks were presented in 57% of the videos, these videos garnered almost 78% of cumulative views. Comparatively few videos provided substantive information related to age at diagnosis, who is at risk for the disease, hereditary nature, or that the disease can inhibit growth and development among children. Most videos (56%) did not cover how celiac disease is diagnosed, and only 14% mentioned family members of diagnosed individuals should be screened for the disease (garnering only 9% of cumulative views).
CONCLUSION: Given the popularity and potential reach of YouTube, medical professionals have an opportunity to use this medium to reach a large audience in providing accurate and useful information to the public about celiac disease.

DOI: 10.1016/j.puhe.2018.11.004
PMID: 30682698

11. Clin Epidemiol. 2019 Jan 14;11:101-114. doi: 10.2147/CLEP.S191914. eCollection

2019.

Cohort profile: ESPRESSO (Epidemiology Strengthened by histoPathology Reports in Sweden).

Ludvigsson JF(1)(2)(3)(4), Lashkariani M(1).

Author information:
(1)Department of Medical Epidemiology and Biostatistics, Karolinska Institutet, Stockholm, Sweden, jonasludvigsson@yahoo.com.
(2)Department of Pediatrics, Örebro University Hospital, Örebro, Sweden, jonasludvigsson@yahoo.com.
(3)Division of Epidemiology and Public Health, School of Medicine, University of Nottingham, Clinical Sciences Building 2, City Hospital, Nottingham, UK, jonasludvigsson@yahoo.com.
(4)Department of Medicine, Columbia University College of Physicians and Surgeons, New York, NY, USA, jonasludvigsson@yahoo.com.

The ESPRESSO study constitutes a novel approach to examine the etiology and prognosis of gastrointestinal disease in which histopathology plays a prominent role. Between 2015 and 2017, all pathology departments (n=28) in Sweden were contacted and asked to procure histopathology record data from the gastrointestinal tract (pharynx to anus), liver, gallbladder, and pancreas. For each individual, local histopathology IT personnel retrieved data on personal identity number, date of histopathology, topography (where the biopsy is taken), morphology (biopsy appearance), and where available free text. In total, between 1965 and 2017, histopathology record data were available in 2.1 million unique individuals, but the number of data entries was 6.1 million because more than one biopsy was performed in many of the study participants. Index individuals with histopathology data were matched with up to five controls from the general population. We also identified all first-degree relatives (parents, children, full siblings), and the index individual's first spouse. The total study population consisted of 13.0 million individuals. Data from all the study participants have been linked to Swedish National Healthcare Registers allowing research not only on such aspects as fetal and perinatal conditions and the risk of future gastrointestinal disease but also on the risk of comorbidity and complications (including cancer and death). Furthermore, the ESPRESSO database allows researchers and practitioners to identify diagnoses and disease phenotypes not currently indexed in national registers (including disease precursors). The ESPRESSO database increases the sensitivity and specificity of already-recorded diseases in the national health registers. This paper is an overview of the ESPRESSO database.

DOI: 10.2147/CLEP.S191914
PMCID: PMC6336132
PMID: 30679926

Conflict of interest statement: Disclosure Dr JFL coordinates a study on behalf of the Swedish IBD quality register (SWIBREG). This study has received funding from Janssen corporation. The authors report no other conflicts of interest in this work.

12. Adv Food Nutr Res. 2019;87:1-41. doi: 10.1016/bs.afnr.2018.07.001. Epub 2018 Aug 31.

Functions and Applications of Bioactive Peptides From Corn Gluten Meal.

Li G(1), Liu W(1), Wang Y(1), Jia F(2), Wang Y(1), Ma Y(1), Gu R(1), Lu J(3).

Author information:
(1)Beijing Engineering Research Center of Protein & Functional Peptides, China National Research Institute of Food and Fermentation Industries, Beijing, PR China.
(2)Ningbo Yu Fang Tang Biological Science and Technology Co., Ltd., Ningbo, Zhejiang, PR China.
(3)Beijing Engineering Research Center of Protein & Functional Peptides, China National Research Institute of Food and Fermentation Industries, Beijing, PR China. Electronic address: johnljsmith@163.com.

Corn protein has been identified as an important source of bioactive peptides. Such peptides can be released during hydrolysis induced by proteolytic enzymes or microbial fermentation. Corn peptides have been found to exhibit different functions in vitro and in vivo such as antihypertensive, hepatoprotective, anti-obesity, antimicrobial, antioxidative, mineral-binding and accelerating alcohol metabolism. To date, 22 sequences of bioactive corn peptides have already been identified. There is an increasing commercial interest in the production of corn peptides with the purpose of using them as active ingredients, which may find use in the treatment of liver injury, hypertension, dental carries, oxidative stress, mineral malabsorption and obesity. These bioactive peptides may be used in formulation of functional foods, nutraceuticals, and natural drugs because of their health benefit effects.

DOI: 10.1016/bs.afnr.2018.07.001
PMID: 30678813

13. Nutrients. 2019 Jan 22;11(2). pii: E220. doi: 10.3390/nu11020220.

Celiac Immunogenic Potential of α-Gliadin Epitope Variants from Triticum and Aegilops Species.

Ruiz-Carnicer Á(1), Comino I(2), Segura V(3), Ozuna CV(4), Moreno ML(5), López-Casado MÁ(6), Torres MI(7), Barro F(8), Sousa C(9).

Author information:
(1)Departamento de Microbiología y Parasitología, Facultad de Farmacia, Universidad de Sevilla, 41012 Sevilla, Spain. acarnicer@us.es.
(2)Departamento de Microbiología y Parasitología, Facultad de Farmacia, Universidad de Sevilla, 41012 Sevilla, Spain. icomino@us.es.
(3)Departamento de Microbiología y Parasitología, Facultad de Farmacia, Universidad de Sevilla, 41012 Sevilla, Spain. vsegura@us.es.
(4)Departamento de Mejora Genética Vegetal, Instituto de Agricultura Sostenible (IAS-CSIC), 14004 Córdoba, Spain. carmen.ozuna@eez.csic.es.
(5)Departamento de Microbiología y Parasitología, Facultad de Farmacia, Universidad de Sevilla, 41012 Sevilla, Spain. lmoreno@us.es.
(6)Departamento de Gastronterología pediátrica, Hospital Virgen de las Nieves, 18014 Granada, Spain. drlopezcasado@digestivointegral.es.
(7)Departamento de Biología Experimental, Campus Universitario Las Lagunillas, 23071 Jaén, Spain. mitorres@ujaen.es.
(8)Departamento de Mejora Genética Vegetal, Instituto de Agricultura Sostenible (IAS-CSIC), 14004 Córdoba, Spain. fbarro@ias.csic.es.

(9)Departamento de Microbiología y Parasitología, Facultad de Farmacia, Universidad de Sevilla, 41012 Sevilla, Spain. csoumar@us.es.

The high global demand of wheat and its subsequent consumption arise from the physicochemical properties of bread dough and its contribution to the protein intake in the human diet. Gluten is the main structural complex of wheat proteins and subjects affected by celiac disease (CD) cannot tolerate gluten protein. Within gluten proteins, α-gliadins constitute the most immunogenic fraction since they contain the main T-cell stimulating epitopes (DQ2.5-glia-α1, DQ2.5-glia-α2, and DQ2.5-glia-α3). In this work, the celiac immunotoxic potential of α-gliadins was studied within Triticeae: diploid, tetraploid, and hexaploid species. The abundance and immunostimulatory capacity of CD canonical epitopes and variants (with one or two mismatches) in all α-gliadin sequences were determined. The results showed that the canonical epitopes DQ2.5-glia-α1 and DQ2.5-glia-α3 were more frequent than DQ2.5-glia-α2. A higher abundance of canonical DQ2.5-glia-α1 epitope was found to be associated with genomes of the BBAADD, AA, and DD types; however, the abundance of DQ2.5-glia-α3 epitope variants was very high in BBAADD and BBAA wheat despite their low abundance in the canonical epitope. The most abundant substitution was that of proline to serine, which was disposed mainly on the three canonical DQ2.5 domains on position 8. Interestingly, our results demonstrated that the natural introduction of Q to H at any position eliminates the toxicity of the three T-cell epitopes in the α-gliadins. The results provided a rational approach for the introduction of natural amino acid substitutions to eliminate the toxicity of three T-cell epitopes, while maintaining the technological properties of commercial wheats.

DOI: 10.3390/nu11020220
PMID: 30678169

14. Eur J Gastroenterol Hepatol. 2019 Jan 22. doi: 10.1097/MEG.0000000000001361. [Epub ahead of print]

Coeliac disease and obstetric and gynaecological disorders: where are we now?

Schiepatti A(1)(2), Sprio E(1), Sanders DS(2), Lovati E(1), Biagi F(1).

Author information:
(1)First Department of Internal Medicine, IRCCS Policlinico San Matteo, University of Pavia, Italy.
(2)Academic Department of Gastroenterology, Royal Hallamshire Hospital, University of Sheffield, Sheffield, UK.

Coeliac disease (CD) is a chronic gluten-dependent enteropathy very common in the general population and characterized by an extremely heterogeneous clinical picture. Although its prevalence is growing worldwide, case-finding strategy remains the mainstay to diagnosis. Thus, correct identification of high-risk categories of patients who need to be tested for CD is an essential part of medical knowledge to a large number of specialists and primary care providers. In this regard, although CD might have a serious effect on women's reproductive health, a widespread consensus is lacking on which categories of obstetric and gynaecological disorders should be tested for CD. The aim of this review is to critically summarize the current literature relevant to CD and obstetric and gynaecological disorders and to provide practical proposals that may be helpful to clinicians involved in the management of these patients.

DOI: 10.1097/MEG.0000000000001361

PMID: 30676472

15. Sports Med. 2019 Jan 22. doi: 10.1007/s40279-018-01034-0. [Epub ahead of print]

Exit Gluten-Free and Enter Low FODMAPs: A Novel Dietary Strategy to Reduce Gastrointestinal Symptoms in Athletes.

Lis DM(1).

Author information:
(1)Department of Neurobiology, Physiology and Behavior, University California Davis, Davis, CA, 95616, USA. dmlis@ucdavis.edu.

Exercise-associated physiological disturbances alter gastrointestinal function and integrity. These alterations may increase susceptibility to dietary triggers, namely gluten and a family of short-chain carbohydrates known as FODMAPs (fermentable oligo-, di-, monosaccharides and polyols). A recent surge in the popularity of gluten-free diets (GFDs) among athletes without celiac disease has been exacerbated by unsubstantiated commercial health claims and high-profile athletes citing this diet to be the secret to their success. Up to 41% of athletes at least partially adhere to a GFD diet, with the belief that gluten avoidance improves exercise performance and parameters influencing performance, particularly gastrointestinal symptoms (GIS). In contrast to these beliefs, seminal work investigating the effects of a GFD in athletes without celiac disease has demonstrated no beneficial effect of a GFD versus a gluten-containing diet on performance, gastrointestinal health, inflammation, or perceptual wellbeing. Interestingly, the subsequent reduction in FODMAPs concurrent with the elimination of gluten-containing grains may actually be the factors affecting GIS improvement, not gluten. Pre-existent in the gastrointestinal tract or ingested during exercise, the osmotic and gas-producing effects of variably absorbed FODMAPs may trigger or increase the magnitude of exercise-associated GIS. Research using FODMAP reduction to address gastrointestinal issues in clinically healthy athletes is emerging as a promising strategy to reduce exercise-associated GIS. Applied research and practitioners merging clinical and sports nutrition methods will be essential for the effective use of a low FODMAP approach to tackle the multifactorial nature of gastrointestinal disturbances in athletes.

DOI: 10.1007/s40279-018-01034-0
PMID: 30671907

16. Aliment Pharmacol Ther. 2019 Feb;49(3):348-349. doi: 10.1111/apt.15096.

Letter: you can stare at a vicious circle, but you can also try to break it-psychological health and coeliac disease. Authors' reply.

Emilsson L(1)(2)(3), Ludvigsson JF(4)(5).

Author information:
(1)Department of Epidemiology, Harvard T.H. Chan School of Public Health, Boston, Massachusetts.
(2)Department of Health Management and Health Economy, Institute of Health and Society, University of Oslo, Oslo, Norway.
(3)Centre for Clinical Research, Vårdcentralen Värmlands Nysäter, Värmland County, Sweden.

(4)Department of Medical Epidemiology and Biostatistics, Karolinska Institutet, Stockholm, Sweden.
(5)Department of Pediatrics, Örebro University Hospital, Örebro, Sweden.

DOI: 10.1111/apt.15096
PMID: 30663104

17. Aliment Pharmacol Ther. 2019 Feb;49(3):347-348. doi: 10.1111/apt.15085.

Letter: you can stare at a vicious circle, but you can also try to break it-psychological health and coeliac disease.

Enck P(1).

Author information:
(1)Internal Medicine VI, University Hospital Tuebingen, Tuebingen, Germany.

DOI: 10.1111/apt.15085
PMID: 30663103

18. Virchows Arch. 2019 Jan 19. doi: 10.1007/s00428-019-02522-y. [Epub ahead of print]

Morphologic spectrum of gluten-related disorders: how far to go?

Kirmizi A(1), Ensari A(2).

Author information:
(1)Department of Pathology, Faculty of Medicine, Ankara University, Ankara, Turkey.
(2)Department of Pathology, Faculty of Medicine, Ankara University, Ankara, Turkey. ensariarzu@gmail.com.

DOI: 10.1007/s00428-019-02522-y
PMID: 30661190

19. J Pediatr Health Care. 2019 Jan 16. pii: S0891-5245(18)30336-5. doi: 10.1016/j.pedhc.2018.10.001. [Epub ahead of print]

A Rare Cause of Recurrent Abdominal Pain in a 5-Year-Old.

Reasor JE, Rajderkar DA, Jolley CD, Joshi-Guske P, Kelly MN.

DOI: 10.1016/j.pedhc.2018.10.001
PMID: 30660429

20. Dig Endosc. 2019 Jan 17. doi: 10.1111/den.13346. [Epub ahead of print]

Capsule endoscopy for small-intestinal disorders: current status.

Hosoe N(1), Takabayashi K(1), Ogata H(1), Kanai T(2).

Author information:

(1)Center for Diagnostic and Therapeutic Endoscopy, School of Medicine, Keio University, Tokyo, Japan.
(2)Division of Gastroenterology and Hepatology, Department of Internal Medicine, School of Medicine, Keio University, Tokyo, Japan.

Small-bowel capsule endoscopy (SBCE) is used widely because of its non-invasive and patient-friendly nature. SBCE can visualize entire small-intestinal mucosa and facilitate detection of small-intestinal abnormalities. In this review article, we focus on the current status of SBCE. Several platforms for SBCE are available worldwide. Third-generation SBCE (PillCam® SB3) has a high-resolution camera equipped with an adaptive frame rate system. Several software modes have been developed to reduce the reading time for CE and to minimize the possibility of missing lesions. The main complication of SBCE is capsule retention. Thus, the main contraindication for SBCE is known or suspected gastrointestinal obstruction unless intestinal patency is proven. Possible indications for SBCE are obscure gastrointestinal bleeding, Crohn's disease, small-intestinal polyps and tumors, and celiac disease. Colon capsule endoscopy (CCE) can observe inflamed colonic mucosa non-invasively, and allows for the continuous and non-invasive observation of the entire intestinal tract (pan-endoscopy). Recently, application of CCE as pan-enteric endoscopy for inflammatory bowel diseases (including Crohn's disease) has been reported. In the near future, reading for CE will be assisted by artificial intelligence, and reading CE videos for long periods will not be required. This article is protected by copyright. All rights reserved.

DOI: 10.1111/den.13346
PMID: 30656743

21. Haematologica. 2019 Jan 17. pii: haematol.2018.203943. doi: 10.3324/haematol.2018.203943. [Epub ahead of print]

Resolution of celiac disease, IgA deficiency and platelet refractoriness after allogeneic bone marrow transplantation for acute leukemia.

Zandi S(1), Kanfar S(2), Cserti-Gazdewich C(2), Lipton JH(2), Pendergrast J(3).

Author information:
(1)University of Toronto.
(2)UHN.
(3)UHN jacob.pendergrast@uhn.ca.

DOI: 10.3324/haematol.2018.203943
PMID: 30655374

22. Korean J Intern Med. 2019 Jan 18. doi: 10.3904/kjim.2018.358. [Epub ahead of print]

A rare case of an enlarged celiac lymph node diagnosed as an epidermal inclusion cyst.

Kim SB(1), Kim KH(1), Kim TN(1), Cho CW(2), Choi JH(3).

Author information:
(1)Department of Internal Medicine, Yeungnam University College of Medicine, Daegu, Korea.
(2)Department of Surgery, Yeungnam University College of Medicine, Daegu, Korea.
(3)Department of Pathology, Yeungnam University College of Medicine, Daegu, Korea.

DOI: 10.3904/kjim.2018.358
PMID: 30654604

23. Arch Argent Pediatr. 2019 Feb 1;117(1):52-55. doi: 10.5546/aap.2019.eng.52.

IgA anti-tissue transglutaminase antibodies and IgG antibodies against deamidated gliadin peptides as predictors of celiac disease.

[Article in English, Spanish; Abstract available in Spanish from the publisher]

Ortiz G(1), Messere G(2), Toca MDC(2), Fiorucci M(3), Bigliardi R(2), Vidal J(2), Reynoso R(2).

Author information:
(1)Sección de Gastroenterología, Hepatología y Nutrición Infantil, Servicio de Pediatría. ortizgonzalojavier@gmail.com.
(2)Sección de Gastroenterología, Hepatología y Nutrición Infantil, Servicio de Pediatría.
(3)Servicio de Laboratorio. Hospital Nacional Alejandro Posadas.

OBJECTIVE: To compare the performance of IgA anti-tissue transglutaminase antibodies (IgA anti-tTG), IgA anti-endomysial antibodies (IgA EMA), and IgA/IgG antibodies against deamidated gliadin peptides (IgA/IgG anti-DGP) for the diagnosis of celiac disease.
METHODS: Descriptive study in patients with celiac disease. Anti-DGP (IgA/IgG), IgA EMA, IgA anti-tTG antibodies were measured and an intestinal biopsy was done. Sex: female (61 %). Median age: 78.4 months old.
RESULTS: A total of 136 children were included; 108 had high IgA anti-DGP titers; 124, increased IgG anti-DGP titers; 128, positive IgA EMA titers; and 130, increased IgA anti-tTG titers. High IgG anti-DGP titers were observed in 4/6 patients with negative IgA anti-tTG antibodies. The combination of IgG anti-DGP + IgA anti-tTG antibodies showed a positive correlation in 134 patients and the IgG anti-DGP + EMA combination was positive in 133 children.
CONCLUSION: IgA EMA, IgA anti-tTG, and IgG anti-DGP antibodies exhibited an adequate specificity and sensitivity. The IgG anti-DGP/anti-tTG combination showed a 98-99 % sensitivity and a 100 % specificity. The anti-tTG and IgG anti-DGP option yields excellent results, with a low cost and independence from the observer.

Publisher: Objetivo. Comparar el rendimiento de anticuerpos antitransglutaminasa IgA (anti-TG2 IgA), antiendomisio IgA (EMA IgA) y antigliadina desaminada IgA/IgG (AGADGP IgA/IgG) para el diagnóstico de enfermedad celiaca. Métodos. Estudio descriptivo en pacientes con enfermedad celíaca. Se dosaron anticuerpos: AGADGP (IgA/IgG), EMA IgA, anti-TG2 IgA y biopsia intestinal. Sexo: mujeres (61 %). Mediana de edad: 78,4 meses. Resultados. Se incluyeron 136 niños; 108 presentaron AGADGP IgA elevado; 124, AGADGP IgG aumentado; 128, EMA IgA positivo; 130, anti-TG2 IgA aumentado. Cuatro de 6 pacientes con anti-TG2 IgA negativos tenían AGADGP IgG elevado. La combinación de los anticuerpos AGADGP IgG + anti-TG2 IgA tuvo una correlación positiva en 134 pacientes y la combinación AGADGP IgG + EMA

fue positiva en 133 niños. Conclusión. Se demostró la buena especificidad y sensibilidad de EMA IgA, anti-TG2 IgA y AGADGP IgG. La combinación AGADGP IgG/anti-TG2 mostró sensibilidad del 98-99 % y especificidad del 100 %. La elección de anti-TG2 y AGADGP IgG da excelentes resultados, con bajo costo y no depende del operador.
Sociedad Argentina de Pediatría.

DOI: 10.5546/aap.2019.eng.52
PMID: 30652447

24. Pediatr Diabetes. 2019 Jan 16. doi: 10.1111/pedi.12815. [Epub ahead of print]

Online education for gluten-free diet teaching: Development and usability testing of an e-learning module for children with concurrent celiac disease and type 1 diabetes.

Connan V(1), Marcon MA(2)(3), Mahmud FH(3)(4), Assor E(5), Martincevic I(5), Bandsma RH(2)(3)(6), Vresk L(5), Walsh CM(1)(2)(3)(7)(8).

Author information:
(1)Child Health Evaluative Sciences, Hospital for Sick Children Research Institute, Toronto, Ontario, Canada.
(2)Division of Gastroenterology, Hepatology and Nutrition, Hospital for Sick Children, Toronto, Ontario, Canada.
(3)Department of Paediatrics, University of Toronto, Toronto, Ontario, Canada.
(4)Division of Endocrinology, Hospital for Sick Children, Toronto, Ontario, Canada.
(5)Department of Clinical Dietetics, Hospital for Sick Children, Toronto, Ontario, Canada.
(6)Translational Medicine Program, Hospital for Sick Children Research Institute, Toronto, Ontario, Canada.
(7)The Learning Institute, Hospital for Sick Children Research Institute, Toronto, Ontario, Canada.
(8)The Wilson Centre for Research in Education, University of Toronto, Toronto, Ontario, Canada.

Background and Objective Celiac Disease (CD), the most common genetically-based food intolerance, affects 3-16% of children with Type 1 Diabetes (T1D). Treatment involves lifelong adherence to a gluten-free diet (GFD). Individualized dietary education is resource-intensive. We, therefore, sought to develop and test the usability of an e-learning module aimed at educating patients and caregivers regarding implementation of the GFD in children with concurrent CD and T1D.METHODS: An interactive e-learning module was developed based on extensive review of CD, T1D, and educational literature. A mixed-methods usability testing approach was used to refine and evaluate the module, using qualitative semi-structured interviews, observations and satisfaction and knowledge questionnaires in two iterative cycles. The module was refined based on themes identified from each usability cycle.
RESULTS: Eighteen patients (8 in cycle 1, 10 in cycle 2) and 15 caregivers (7 in cycle 1, 8 in cycle 2) participated. Patient participants had CD and T1D for a mean (SD) of 6.1±5.1 and 8.3±5.5 years, respectively. Their mean age was 13.5±4.5 years. Thematic analysis of usability interviews showed the module to be appealing and resulted in minor module revisions after each cycle to improve usability. Mean satisfaction scores post-module completion were high (4.67±0.54), indicating participants were "very satisfied" with the education. Knowledge test scores increased significantly from pre- to post-module completion (p=0.001).

CONCLUSION: A multifaceted user-centered usability approach demonstrated that an innovative, interactive e-learning module is effective in knowledge retention and can provide comprehensive and accessible information in the implementation of the GFD teaching in children with CD and T1D. This article is protected by copyright. All rights reserved.

DOI: 10.1111/pedi.12815
PMID: 30652421

25. Ann Surg Oncol. 2019 Jan 16. doi: 10.1245/s10434-018-07148-z. [Epub ahead of print]

Risk of Venous Thromboembolism for Patients with Pancreatic Ductal Adenocarcinoma Undergoing Preoperative Chemotherapy Followed by Surgical Resection.

Boone BA(1)(2), Zenati MS(3), Rieser C(3), Hamad A(3), Al-Abbas A(3), Zureikat AH(3), Hogg ME(3), Neal MD(3), Zeh HJ 3rd(3)(4).

Author information:
(1)Department of Surgery, University of Pittsburgh, Pittsburgh, PA, USA. Brian.boone@hsc.wvu.edu.
(2)Division of Surgical Oncology, Department of Surgery, West Virginia University, Morgantown, WV, USA. Brian.boone@hsc.wvu.edu.
(3)Department of Surgery, University of Pittsburgh, Pittsburgh, PA, USA.
(4)Department of Surgery, UT Southwestern, Dallas, TX, USA.

BACKGROUND: Pancreatic ductal adenocarcinoma (PDA) is associated with a hypercoagulable state, resulting in a high risk of venous thromboembolism (VTE). Risk of VTE is well established for patients receiving chemotherapy for advanced disease and during the perioperative period for patients undergoing surgical resection. However, data are lacking for patients undergoing neoadjuvant treatment followed by resection, who may have a unique risk of VTE because of exposure to both chemotherapy and surgery.
METHODS: The study included patients with PDA who underwent neoadjuvant therapy followed by surgery from 2007 to June 2017. Development of VTE was evaluated from the start of treatment through the 90-day postoperative period. Risk factors including demographic, treatment, and laboratory variables were evaluated.
RESULTS: The study investigated 426 patients receiving neoadjuvant therapy before surgical resection. Of these patients, 20% had a VTE within 90 days postoperatively (n = 87), and 70% of the VTE occurred during the postoperative period. The VTE included pulmonary embolism (30%), deep vein thrombosis (33%), and thrombosis of the portal vein (PV)/superior mesenteric vein (SMV) (40%). A pretreatment hemoglobin level lower than 10 g/dL and a platelet count higher than 443 were independently associated with VTE during neoadjuvant treatment. The independent predictors of postoperative VTE were a body mass index higher than 35 kg/m2, a preoperative platelet-to-lymphocyte ratio higher than 260, resection with distal pancreatectomy with celiac axis resection/total pancreatectomy, PV/SMV resection, and longer operative times. Development of VTE was associated with worse overall and disease-free survival and an independent predictor of survival and decreased likelihood of receiving adjuvant chemotherapy.
CONCLUSIONS: Venous thromboembolism during neoadjuvant therapy and the subsequent perioperative period is common and has a significant impact on outcome. Further study into novel thromboprophylaxis measures or protocols during neoadjuvant treatment and the perioperative period is warranted.

DOI: 10.1245/s10434-018-07148-z
PMID: 30652227

26. Nutrients. 2019 Jan 15;11(1). pii: E170. doi: 10.3390/nu11010170.

Gluten-Free Diet: Gaps and Needs for a Healthier Diet.

Melini V(1), Melini F(2).

Author information:
(1)CREA Research Centre for Food and Nutrition; Via Ardeatina 546, I-00178 Rome, Italy. valentina.melini@crea.gov.it.
(2)CREA Research Centre for Food and Nutrition; Via Ardeatina 546, I-00178 Rome, Italy. francesca.melini@crea.gov.it.

The gluten-free diet (GFD) is currently the only effective treatment in remitting the symptoms of coeliac disease (CD), a chronic systemic autoimmune disorder caused by a permanent intolerance to gluten proteins in genetically susceptible individuals. The diet entails the substitution of gluten-containing products with gluten-free-rendered products. However, over recent decades the nutritional profile of gluten-free (GF) food products has been increasingly questioned within the scientific community. The aim of this paper is to review the nutritional profile of gluten-free-rendered products currently available on the market, and discuss the possible relationship thereof with the nutritional status of coeliac patients on a GFD. Key inadequacies of currently available GF products are low protein content and a high fat and salt content. More adequate levels of dietary fiber and sugar than in the past have been reported. Population studies confirmed the above mentioned inadequacies. Further efforts are required to conceive adoptable interventions for product development and reformulation in order to achieve compliance with nutritional recommendations.

DOI: 10.3390/nu11010170
PMID: 30650530

27. Eur J Clin Nutr. 2019 Jan 15. doi: 10.1038/s41430-018-0385-6. [Epub ahead of print]

Differences in the macronutrient and dietary fibre profile of gluten-free products as compared to their gluten-containing counterparts.

Calvo-Lerma J(1)(2), Crespo-Escobar P(3), Martínez-Barona S(3), Fornés-Ferrer V(3), Donat E(4), Ribes-Koninckx C(3)(4).

Author information:
(1)Instituto de Investigación Sanitaria La Fe, Avenida Fernando Abril Martorell 106, Torre A planta 0, 46026, Valencia, Spain. joaquin_calvo@iislafe.es.
(2)Instituto de Ingeniería de Alimentos para el Desarrollo, Universitat Politècnica de València, Camino de Vera s/n, 46022, Valencia, Spain. joaquin_calvo@iislafe.es.
(3)Instituto de Investigación Sanitaria La Fe, Avenida Fernando Abril Martorell 106, Torre A planta 0, 46026, Valencia, Spain.
(4)Hospital Universitari i Politècnic La Fe. Avda, Fernando Abril Martorell 106, Torre C planta 2, 46026, Valencia, Spain.

BACKGROUND/OBJECTIVES: Gluten-free diet is the lifelong therapy for patients with coeliac disease. A wide range of gluten-free products (GFP) is available, which mimics the characteristics of their gluten-containing counterparts (GCC). The aim of this study was to compare the macronutrient and dietary fibre composition of GFP and GCC currently available in Spain.
SUBJECTS/METHODS: A cross-sectional study analysing the nutritional differences between 621 GFP and 600 GCC based on labelling information was conducted. Food items were categorized in one of 14 food groups. The first six ingredients were noted for each food item. A linear regression model was used to explain differences in nutritional composition between GFP and GCC and three independent models were created for bread, pasta and biscuits.
RESULTS: Results showed that GCC had higher protein content than GFP, especially in flour, bread, pasta and pizza. Bread had higher total and saturated fat contents in the GFP in which palm oil was the main fat used. Flours and starchy ingredients used in GFP formulation were mainly rice and corn flours and corn starch, and palm oil was the most commonly used fat.
CONCLUSIONS: In conclusion, GFP cannot currently be considered as equivalent substitutes for their GCC. The reformulation of the GFP with more healthy ingredients and ingredients is encouraged, using a healthy oil, pseudocereals and whole flour.

DOI: 10.1038/s41430-018-0385-6
PMID: 30647439

28. Lancet Gastroenterol Hepatol. 2019 Feb;4(2):100. doi: 10.1016/S2468-1253(18)30424-2.

Samuel Gee: the modern era for coeliac disease.

Burki TK.

DOI: 10.1016/S2468-1253(18)30424-2
PMID: 30647009

29. Curr Rheumatol Rev. 2019 Jan 15. doi: 10.2174/1573397115666190115143226. [Epub ahead of print]

Association between Human Leukocyte Antigens with Autoimmune Diseases: Diagnostic Approach.

Rajaei E(1), Jalali MT(2), Shahrabi S(3), Asnafi AA(4), Pezeshki SMS(4).

Author information:
(1)Golestan Hospital Clinical Research Development Unit, Ahvaz Jundishapur University of Medical Sciences, Ahvaz. Iran.
(2)Hyperlipidemia Research Center, Diabetes Research Center, Ahvaz Jundishapur University of Medical Sciences, Ahvaz. Iran.
(3)Department of biochemistry and hematology, faculty of medicine, Semnan University of medical sciences, Semnan. Iran.
(4)Thalassemia and Hemoglobinopathy Research Center, Research Institute of Health, Ahvaz Jundishapur University of Medical Sciences, Ahvaz. Iran.

BACKGROUND: The process of antigen presentation to immune cells is an undeniable contributor to pathogenesis of autoimmune diseases. Different studies have indicated several factors that are related to autoimmunity. Human leukocyte

antigens (HLAs) are among such factors, which have a key role in autoimmunity because of their involvement in antigen presentation process.
METHODS: Relevant English language literature were searched and retrieved from Google Scholar search engine and PubMed database (1996-2018). The following keywords were used: "Human leukocyte antigen", "Behcet`s syndrome", "Rheumatoid arthritis", "systemic lupus erythematosus", "Type 1 diabetes", "Celiac Disease" and "Autoimmunity".
RESULTS: There is a strong association between HLA alleles and autoimmune diseases. For instance, HLA-B alleles and Behcet`s syndrome are strongly correlated, and systemic lupus erythematosus and Type 1 diabetes are related with HLA-DQA1 and HLA-DQB1, respectively.
CONCLUSIONS: Association between numerous HLA alleles and autoimmune diseases may justify and rationalize their use as biomarkers as well as possible diagnostic laboratory parameters.

DOI: 10.2174/1573397115666190115143226
PMID: 30644346

30. Medicina (Kaunas). 2019 Jan 12;55(1). pii: E11. doi: 10.3390/medicina55010011.

Pediatric Celiac Disease in Central and East Asia: Current Knowledge and Prevalence.

Poddighe D(1), Rakhimzhanova M(2), Marchenko Y(3), Catassi C(4).

Author information:
(1)Department of Medicine, Nazarbayev University School of Medicine, 010000 Astana, Kazakhstan. dimitri.poddighe@nu.edu.kz.
(2)Department of Pediatrics, National Research Center of Mother and Child Health, University Medical Center, 010000 Astana, Kazakhstan. Marzhan.Rahimzhanova@umc.org.kz.
(3)Center of Laboratory Medicine, Republican Diagnostic Center, University Medical Center, 010000 Astana, Kazakhstan. elena.martchenko@gmail.com.
(4)Department of Pediatrics, Universita' Politecnica delle Marche, 60121 Ancona, Italy. c.catassi@univpm.it.

The current prevalence of pediatric Celiac Disease (CD) is estimated to be around 1% in the general population, worldwide. However, according to the geographic area, a great variability of CD prevalence has been described. Whereas a number of studies are available from Europe, North and South America, Australia, South-West Asia, and North Africa, the knowledge and awareness of CD in large parts of the remaining world areas is definitively poor. In several countries of Central and East Asia, the consumption of wheat is consistent and/or has significantly increased in recent decades, and CD is supposed to be underdiagnosed in children. In this mini-review, we aimed to summarize the current knowledge about the prevalence of pediatric CD in Central and East Asia, paying attention to the HLA-DQ immunogenetic background as well. Indeed, CD is likely not to be as uncommon as previously or currently thought in countries like Russia, Kazakhstan, and China, in addition to India, where pediatric CD has been clearly showed to be quite prevalent. Therefore, there is an urgent need for population-based studies on the prevalence of CD in those countries, especially in children, in order to increase the awareness of this disease and to improve the diagnostic strategy in these areas.

DOI: 10.3390/medicina55010011
PMID: 30642036

31. Autoimmun Rev. 2019 Jan 11. pii: S1568-9972(19)30006-0. doi: 10.1016/j.autrev.2018.10.001. [Epub ahead of print]

The association of other autoimmune diseases in patients with Graves' disease (with or without ophthalmopathy): Review of the literature and report of a large series.

Ferrari SM(1), Fallahi P(1), Ruffilli I(1), Elia G(1), Ragusa F(1), Benvenga S(2), Antonelli A(3).

Author information:
(1)Department of Clinical and Experimental Medicine, University of Pisa, Via Savi 10, Pisa 56126, Italy.
(2)Department of Clinical and Experimental Medicine, University of Messina, Italy; Master Program on Childhood, Adolescent and Women's Endocrine Health, University of Messina, Italy; Interdepartmental Program of Molecular and Clinical Endocrinology and Women's Endocrine Health, Azienda Ospedaliera Universitaria Policlinico 'G. Martino', Messina I-98125, Italy.
(3)Department of Clinical and Experimental Medicine, University of Pisa, Via Savi 10, Pisa 56126, Italy. Electronic address: alessandro.antonelli@med.unipi.it.

Graves' disease (GD) and autoimmune thyroiditis (AT) are the two main clinical presentations of AITD, and their clinical hallmarks are thyrotoxicosis and hypothyroidism, respectively. GD, and AT, can be associated with other organ specific, or systemic autoimmune diseases in the same patient. However discordant results have been reported in the literature about the possible associations. Here, we review the association of GD and other autoimmune syndromes. Furthermore, we report the results of our prospective study that investigated the prevalence of other autoimmune disorders in 3209 GD patients (984 with Graves' ophthalmopathy), with respect to 1069 healthy controls, or 1069 patients with AT, or 1069 with multinodular goiter (matched by age, gender, coming from the same area, with a similar iodine intake). On the whole, 16.7% of GD patients had another associated autoimmune disease; and the most frequently observed were: vitiligo (2.6%), chronic autoimmune gastritis (2.4%), rheumatoid arthritis (1.9%), polymyalgia rheumatica (1.3%), multiple sclerosis (0.3%), celiac disease (1.1%), diabetes (type 1) (0.9%), systemic lupus erythematosus and sarcoidosis (<0.1%), Sjogren disease (0.8%). Moreover, 1.5% patients with GD had three associated autoimmune disorders. Interestingly, patients with Graves' ophthalmopathy (GO) had another autoimmmune disorder more frequently (18.9%), with respect to GD patients without GO (15.6%). However the pattern of the associated autoimmune disorders in GD was not significantly different from that observed in AT patients. In conclusion, we suggest GD patients who are still sick, or who develop new unspecific symptoms (even if during an appropriate treatment of hyperthyroidism) should be appropriately screened for the presence of other autoimmune disorders.

DOI: 10.1016/j.autrev.2018.10.001
PMID: 30639646

32. Autoimmun Rev. 2019 Jan 11. pii: S1568-9972(19)30003-5. doi: 10.1016/j.autrev.2018.09.010. [Epub ahead of print]

Autoimmunity in celiac disease: Extra-intestinal manifestations.

Aaron L(1), Torsten M(2), Patricia W(2).

Author information:
(1)AESKU.KIPP Institute, Wendelsheim, Germany; B. Rappaport School of Medicine, Technion-Israel Institute of Technology, Haifa, Israel. Electronic address: aaronlerner1948@gmail.com.
(2)AESKU.KIPP Institute, Wendelsheim, Germany.

Celiac disease is an autoimmune condition of the small intestine caused by prolamins in genetically susceptible individuals evoked by multiple environmental factors. The pathological luminal intricate eco-events produce multiple signals that irradiate the entire body, resulting in a plethora of extra-intestinal manifestations. Nutrients, dysbiosis, dysbiotic components and their mobilome, post-translational modification of naive proteins, inter-enterocyte's tight junction dysfunction resulting in a leaky gut, microbial lateral genetic transfer of virulent genes, the sensing network of the enteric nervous systems and the ensuing pro-inflammatory messengers are mutually orchestrating the autoimmune interplay. Genetic-environmental-luminal events-mucosal changes are driving centrifugally the remote organs autoimmunity, establishing extra-intestinal multi organ injury. Exploring the underlying intestinal eco-events, the sensing and the delivery pathways and mechanisms that induce the peripheral tissues' damages might unravel new therapeutical strategies to prevent and help the gluten affected patients.

DOI: 10.1016/j.autrev.2018.09.010
PMID: 30639642

33. Lancet Child Adolesc Health. 2019 Jan 9. pii: S2352-4642(18)30386-9. doi: 10.1016/S2352-4642(18)30386-9. [Epub ahead of print]

Eating disorders in adolescents with chronic gastrointestinal and endocrine diseases.

Avila JT(1), Park KT(2), Golden NH(3).

Author information:
(1)Department of Pediatrics, Division of Adolescent Medicine, Lucile Packard Children's Hospital, Stanford University School of Medicine, Palo Alto, CA, USA.
(2)Department of Pediatrics, Division of Gastroenterology, Lucile Packard Children's Hospital, Stanford University School of Medicine, Palo Alto, CA, USA.
(3)Department of Pediatrics, Division of Adolescent Medicine, Lucile Packard Children's Hospital, Stanford University School of Medicine, Palo Alto, CA, USA. Electronic address: ngolden@stanford.edu.

Eating disorders are one of the most common chronic conditions in adolescents. The clinical symptoms can mimic those of other chronic diseases including gastrointestinal and endocrine disorders. However, an eating disorder can coexist with another chronic disease, making the diagnosis and management of both conditions challenging. This Review describes what is known about eating

disorders in adolescents with chronic gastrointestinal and endocrine diseases, focusing on coeliac disease, inflammatory bowel disease, diabetes, and thyroid disorders. The prevalence and onset of each condition during adolescence is discussed, followed by a description of the associations among the conditions and eating disorders. We also discuss management challenges posed by the coexistence of the two conditions. When both diseases coexist, a multidisciplinary approach is often needed to address the additional complexities posed.

DOI: 10.1016/S2352-4642(18)30386-9
PMID: 30638841

34. Comput Methods Programs Biomed. 2019 Feb;169:51-57. doi: 10.1016/j.cmpb.2018.12.026. Epub 2018 Dec 26.

Satisfaction and perceived usefulness with newly-implemented Electronic Health Records System among pediatricians at a university hospital.

Alsohime F(1), Temsah MH(2), Al-Eyadhy A(1), Bashiri FA(3), Househ M(4), Jamal A(5), Hasan G(6), Alhaboob AA(1), Alabdulhafid M(1), Amer YS(7).

Author information:
(1)Pediatrics Department, College of Medicine, King Saud University, Riyadh, Saudi Arabia; Pediatric Intensive Care Unit, King Saud University Medical City, Riyadh, Saudi Arabia.
(2)Pediatrics Department, College of Medicine, King Saud University, Riyadh, Saudi Arabia; Pediatric Intensive Care Unit, King Saud University Medical City, Riyadh, Saudi Arabia; Prince Abdullah Ben Khaled Celiac Disease Research Chair, King Saud University, Riyadh, Saudi Arabia. Electronic address: mtemsah@ksu.edu.sa.
(3)Pediatrics Department, College of Medicine, King Saud University, Riyadh, Saudi Arabia; Division of Neurology, Department of Pediatrics, King Khalid University Hospital, College of Medicine, King Saud University, Riyadh, Saudi Arabia.
(4)College of Public Health and Health Informatics, King Saud Bin Abdulaziz University for Health Sciences, Ministry of National Guard - Health Affairs, Riyadh, Kingdom of Saudi Arabia.
(5)Family and Community Medicine Department, King Saud University, Riyadh, Saudi Arabia.
(6)Pediatric Intensive Care Unit, King Saud University Medical City, Riyadh, Saudi Arabia; Pediatric Department, Assiut Faculty of Medicine, Assiut University, Assiut, Egypt.
(7)Pediatrics Department, College of Medicine, King Saud University, Riyadh, Saudi Arabia; Clinical Practice Guidelines Unit, Quality Management Department, King Saud University Medical City, Riyadh, Saudi Arabia; Research Chair for Evidence-Based Health Care and Knowledge Translation, King Saud University, Riyadh, Saudi Arabia.

BACKGROUND: Apposite implementation of Electronic Health Records (EHR) is anchoring standards of care in healthcare settings by reducing long-run operational costs, improving healthcare quality, and enhancing patient safety.
OBJECTIVE: This study aims to explore factors that might influence Pediatricians' satisfaction with an implemented EHR system and its perceived usefulness at a tertiary-care teaching hospital, Riyadh, Saudi Arabia.
METHODS: A cross-sectional survey distributed to all physicians working in the

pediatric department of King Saud University Medical City (KSUMC) in the period from June to November 2015, two months after the launch of the EHR system, internally branded as electronic system for integrated health information (eSiHi). Bivariate and multivariate regression were analyzed to examine factors associated with physicians' satisfaction.
RESULTS: Of the 112 physicians who completed the survey, 97 (86.6%) attended training courses before the implementation of new EHR. On average, the participants rated the perceived usefulness of the new system at 6.4/10 for patient care and physicians' satisfaction levels were 5.2/10. The top indicator of EHR usefulness was the system's ability to reduce errors and improve the quality of care [mean 3.31, SD 0.9, RII 82.8%]; the lowest-ranking indicator was the physicians' perceived familiarity with functions and benefits [mean 2.68, SD 0.7, RII 67%]. The top indicator of satisfaction with the EHR system was enhanced "individual performance" [mean 3.04, SD 1, RII 60.9%]; the lowest-ranking perceived indicator was the limited availability of workplace computers [mean 1.91, SD 1.2, RII 38.2%].
CONCLUSIONS: Limited data regarding EHR implementation and end-users satisfaction in the Middle East region necessitates further work on factors affecting levels of satisfaction with the EHR system among different health institutes. Lack of information technology (IT) support, hardware, and time-consuming data entry process are challenging barriers for proper utilization of EHR for pediatric health care services.

DOI: 10.1016/j.cmpb.2018.12.026
PMID: 30638591

35. Indian J Pediatr. 2019 Jan 12. doi: 10.1007/s12098-018-2836-4. [Epub ahead of print]

Assessment of Quality of Life, Anxiety and Depressive Symptoms in Serbian Children with Celiac Disease and their Parents.

Stojanović B(1), Kočović A(2), Radlović N(3), Leković Z(4)(5), Prokić D(6), Đonović N(7), Jovanović S(1), Vuletić B(8).

Author information:
(1)Higher Education School of Professional Health Studies, Belgrade, Serbia.
(2)Faculty of Medical Sciences, Department of Pharmacy, University of Kragujevac, Kragujevac, Serbia. salekkg91@gmail.com.
(3)Academy of Medical Sciences of the Serbian Medical Society, Belgrade, Serbia.
(4)Faculty of Medical Sciences, University of Belgrade, Belgrade, Serbia.
(5)University Children Hospital, Belgrade, Serbia.
(6)Mother and Child Health Care Institute of Serbia "Dr Vukan Cupic" Belgrade, Belgrade, Serbia.
(7)Faculty of Medical Sciences, Department of Hygiene and Ecology, University of Kragujevac, Kragujevac, Serbia.
(8)Faculty of Medical Sciences, Department of Pediatrics, University of Kragujevac, Kragujevac, Serbia.

OBJECTIVES: To evaluate the level of health-related quality of life (QoL) and presence of anxiety and depressive symptoms in Serbian children with celiac disease from the perspective of patients and their parents.
METHODS: This cross-sectional study investigated the group of children and adolescents with celiac disease aged 5-18 y, and at least one parent of each

patient with celiac disease. The patients and their parents were recruited at the Institute of Mother and Child Health of Serbia and the University Children's Hospital in Belgrade. The instruments used in this study were child-self and parent-proxy versions of the Pediatric Quality of Life Inventory (PedsQL), Screen for Child Anxiety Related Emotional Disorder (SCARED) and Short Mood and Feelings Questionnaire (MFQ). Additional information was collected from the medical records of each patient.
RESULTS: According to the PedsQL questionnaire, the quality of life was similarly assessed by both parents and their children ($p > 0.05$), as well as the presence of depressive symptoms according to MFQ questionnaire. However, a statistically significant difference was observed in the total score of the SCARED questionnaire for children and parents [total score ($p < 0.05$), panic-somatic disturbance ($p < 0.01$) and social anxiety ($p < 0.01$)].
CONCLUSIONS: The patients and their parents in Serbia have similarly assessed the quality of life of children with celiac disease, but the differences in the scores of SCARED questionnaire indicate that it is necessary to include both children and parents in the assessment of QOL.

DOI: 10.1007/s12098-018-2836-4
PMID: 30637682

36. Obes Surg. 2019 Jan 12. doi: 10.1007/s11695-018-03678-3. [Epub ahead of print]

Letter: Celiac Disease Presenting After a Single Anastomosis Duodeno-Ileal Bypass and Sleeve Gastrectomy.

Therrien A(1)(2), Renaud MP(3)(4), Sanchez LM(5), D'Aoust L(3), Lemoyne M(3).

Author information:
(1)Department of Medicine, Division of Gastroenterology, Centre Hospitalier de l'Université de Montreal, 1051 Sanguinet, Montreal, H2X 0C1, Canada. atherri1@bidmc.harvard.edu.
(2)Beth Israel Deaconess Medical Center, East Campus, Gastroenterology 330 Brookline Ave, Boston, MA, 02115, USA. atherri1@bidmc.harvard.edu.
(3)Department of Medicine, Division of Gastroenterology, Centre Hospitalier de l'Université de Montreal, 1051 Sanguinet, Montreal, H2X 0C1, Canada.
(4)Hôpital Anna-Laberge, 200 Boul Brisebois, Châteauguay, J6K 4W8, Canada.
(5)Department of Pathology, Centre Hospitalier de l'Université de Montréal, 1100 rue Sanguinet, Pavillon F, Montreal, H2X 0C2, Canada.

DOI: 10.1007/s11695-018-03678-3
PMID: 30637519

37. J Immunol. 2019 Jan 11. pii: ji1800819. doi: 10.4049/jimmunol.1800819. [Epub ahead of print]

A Functional Idiotype/Anti-Idiotype Network Is Active in Genetically Gluten-Intolerant Individuals Negative for Both Celiac Disease-Related Intestinal Damage and Serum Autoantibodies.

Quaglia S(1), Ferrara F(2), De Leo L(1), Ziberna F(1), Vatta S(1), Marchiò S(3)(4), Sblattero D(5), Ventura A(1)(5), Not T(6)(5).

Author information:
(1)Institute for Maternal and Child Health, Istituto di Ricerca e Cura a

Carattere Scientifico Burlo Garofolo, Trieste 34137, Italy.
(2)Specifica Inc., Santa Fe, NM 87505; fferrara@specifica.bio tarcisio.not@burlo.trieste.it.
(3)Candiolo Cancer Institute-Fondazione del Piemonte per l'Oncologia, Istituto di Ricerca e Cura a Carattere Scientifico, Candiolo, Turin 10060, Italy.
(4)Department of Oncology, University of Turin School of Medicine, Candiolo, Turin 10060, Italy; and.
(5)University of Trieste, Department of Life Science, Trieste 34128, Italy.
(6)Institute for Maternal and Child Health, Istituto di Ricerca e Cura a Carattere Scientifico Burlo Garofolo, Trieste 34137, Italy; fferrara@specifica.bio tarcisio.not@burlo.trieste.it.

An unbalance between Abs that recognize an autoantigen (idiotypes; IDs) and Igs that bind such Abs (anti-IDs) is considered a functional event in autoimmune disorders. We investigated the presence of an ID/anti-ID network in celiac disease (CD), a condition in which antitissue transglutaminase 2 (TG2) Abs are suspected to contribute to CD pathogenesis. To characterize the ID side, we reproduced by in vitro yeast display the intestine-resident Abs from CD and control patients. These TG2-specific IDs were used to identify potential anti-IDs in the serum. We observed elevated titers of anti-IDs in asymptomatic patients with predisposition to CD and demonstrated that anti-ID depletion from the serum restores a detectable humoral response against TG2. Our study provides an alternative approach to quantify CD-related autoantibodies in cases that would be defined "negative serology" with current diagnostic applications. Therefore, we suggest that developments of this technology could be designed for perspective routine tests.

DOI: 10.4049/jimmunol.1800819
PMID: 30635394

38. Ital J Pediatr. 2019 Jan 11;45(1):9. doi: 10.1186/s13052-019-0606-1.

Efficacy of the gluten free diet in the management of functional gastrointestinal disorders: a systematic review on behalf of the Italian Society of Paediatrics.

Scarpato E(1), Auricchio R(1), Penagini F(2), Campanozzi A(3), Zuccotti GV(2), Troncone R(4).

Author information:
(1)Department of Translational Medical Sciences - Section of Paediatrics, University of Naples Federico II, via Pansini 5, 80131, Naples, Italy.
(2)Department of Pediatrics, University of Milan, V. Buzzi Children's Hospital, via Castelvetro 32, 20154, Milan, Italy.
(3)Pediatrics, Department of Medical and Surgical Sciences, University of Foggia, via Luigi Pinto 1, 71100, Foggia, Italy.
(4)Department of Translational Medical Sciences - Section of Paediatrics, University of Naples Federico II, via Pansini 5, 80131, Naples, Italy. troncone@unina.it.

BACKGROUND: Functional gastrointestinal disorders (FGIDs) are characterized by chronic/recurrent gastrointestinal symptoms not related to organic disorders. Due to the limited treatment options and to the perception of subjects with FGIDs suffering from a food intolerance, in recent years there has been an increase in the self-prescription of elimination diets, especially gluten free diet (GFD),

for the treatment of these disorders. For this reason, we decided to perform this systematic review with the aim to evaluate the available evidence on the effects of a GFD on gastrointestinal symptoms, in subjects with FGIDs.
METHODS: Cochrane Library and MEDLINE (via PubMed) databases were searched, from inception to March 2018, using the MeSH terms "functional gastrointestinal disorder OR irritable bowel syndrome AND gluten". We included all the clinical trials published in English and evaluating the effects of a GFD in subjects with FGIDs diagnosed according to the Rome II, III, and IV criteria.
RESULTS: Eleven trials were eligible (3 prospective trials, 8 single or double-blind placebo-controlled trials), with 10/11 trials including adult subjects with irritable bowel syndrome (IBS) or FGIDs. Most of the prospective studies found an effect of GFD on gastrointestinal symptoms control. Nevertheless, 1 trial failed to find an association between gluten and GI symptoms when FODMAPs (fermentable oligosaccharides, disaccharides, monosaccharides and polyols) content was simultaneously reduced in the diet, and 2 trials reported a worsening of symptoms during placebo administration. The results of the different trials are difficult to compare due to discrepancies in the study protocols regarding the amount and type of gluten administered, the duration of the gluten challenge, the type of placebo used, and the duration of the challenge itself.
CONCLUSIONS: According to our results, gluten may contribute to the occurrence of gastrointestinal symptoms in patients with FGIDs, particularly in those with IBS. Nevertheless, the results of the currently available trials are difficult to compare due to the lack of standardization in the study designs. For this reason, it is still not possible to recommend the use of the GFD in the routine management of FGIDs.

DOI: 10.1186/s13052-019-0606-1
PMCID: PMC6329096
PMID: 30635010

39. Nutrients. 2019 Jan 10;11(1). pii: E136. doi: 10.3390/nu11010136.

Exposure to Different Amounts of Dietary Gluten in Patients with Non-Celiac Gluten Sensitivity (NCGS): An Exploratory Study.

Roncoroni L(1)(2), Bascuñán KA(3)(4), Vecchi M(5)(6), Doneda L(7), Bardella MT(8), Lombardo V(9), Scricciolo A(10), Branchi F(11), Elli L(12).

Author information:
(1)Center for Prevention and Diagnosis of Celiac Disease, Gastroenterology and Endoscopy Unit, Fondazione IRCCS Ca' Granda Ospedale Maggiore Policlinico, 20135 Milan, Italy. leda.roncoroni@unimi.it.
(2)Department of Biomedical, Surgical and Dental Sciences, University of Milan, 20133 Milan, Italy. leda.roncoroni@unimi.it.
(3)Center for Prevention and Diagnosis of Celiac Disease, Gastroenterology and Endoscopy Unit, Fondazione IRCCS Ca' Granda Ospedale Maggiore Policlinico, 20135 Milan, Italy. kbascunan@med.uchile.cl.
(4)Department of Nutrition, School of Medicine, University of Chile, 8380453 Santiago, Chile. kbascunan@med.uchile.cl.
(5)Department of Pathophysiology and Transplantation, University of Milan, 20122 Milan, Italy. maurizio.vecchi@policlinico.mi.it.
(6)Gastroenterology and Endoscopic Unit, Fondazione IRCCS Ca' Granda, Ospedale Maggiore Policlinico, 20122 Milan, Italy. maurizio.vecchi@policlinico.mi.it.
(7)Department of Biomedical, Surgical and Dental Sciences, University of Milan, 20133 Milan, Italy. luisa.doneda@unimi.it.

(8)Center for Prevention and Diagnosis of Celiac Disease, Gastroenterology and Endoscopy Unit, Fondazione IRCCS Ca' Granda Ospedale Maggiore Policlinico, 20135 Milan, Italy. mariateresa.bardella@yahoo.com.
(9)Center for Prevention and Diagnosis of Celiac Disease, Gastroenterology and Endoscopy Unit, Fondazione IRCCS Ca' Granda Ospedale Maggiore Policlinico, 20135 Milan, Italy. vicky.l@hotmail.it.
(10)Center for Prevention and Diagnosis of Celiac Disease, Gastroenterology and Endoscopy Unit, Fondazione IRCCS Ca' Granda Ospedale Maggiore Policlinico, 20135 Milan, Italy. scricciolo.alice@gmail.com.
(11)Center for Prevention and Diagnosis of Celiac Disease, Gastroenterology and Endoscopy Unit, Fondazione IRCCS Ca' Granda Ospedale Maggiore Policlinico, 20135 Milan, Italy. federica.branchi@gmail.com.
(12)Center for Prevention and Diagnosis of Celiac Disease, Gastroenterology and Endoscopy Unit, Fondazione IRCCS Ca' Granda Ospedale Maggiore Policlinico, 20135 Milan, Italy. dottorlucaelli@gmail.com.

It is unclear whether patients with non-celiac gluten sensitivity (NCGS) can tolerate gluten. We have evaluated the changes of both gastrointestinal symptoms and quality of life for NCGS patients after the re-introduction of dietary gluten. Twenty-two NCGS patients reporting functional gastroenterological symptoms and on gluten-free diet (GFD) for the previous three weeks were exposed to incremental gluten-containing diets. Three groups were compared at baseline (immediately after 3-weeks on GFD) and immediately after the return of symptomatology: (i) a group tolerating a low-gluten diet (3.5 g gluten/day, week 1, n = 8), (ii) a group tolerating a mid-gluten diet (8 g gluten/day, week 2, n = 6), and (iii) a group tolerating a high-gluten diet (13 g gluten/day, week 3, n = 8). Their gastrointestinal symptoms and quality of life were assessed at baseline and post-intervention. The most common symptoms were: constipation (46%), abdominal pain (50%) and dyspepsia (38%). A decrease in several short form health survey (SF-36) sub-scores (all $p < 0.03$) after gluten re-introduction was only observed in the group tolerating the low-gluten diet; the same group showed a lower post-intervention role-emotional SF-36 score ($p = 0.01$). Most gastrointestinal symptoms remained similar after gluten re-introduction. However, a decrease in the general perception of well-being was only found after gluten re-introduction in the group tolerating a low-gluten diet ($p = 0.01$); the same was true when comparing the post-intervention general well-being perception among the three groups ($p = 0.050$). In conclusion, dissimilar responses from patients with NCGS were observed after the re-introduction of gluten, with gluten at a low dosage affecting the quality of life and general well-being of a group of patients, whereas others tolerate even higher doses of dietary gluten.

DOI: 10.3390/nu11010136
PMID: 30634655 [Indexed for MEDLINE]

40. Microorganisms. 2019 Jan 10;7(1). pii: E14. doi: 10.3390/microorganisms7010014.

What is the Healthy Gut Microbiota Composition? A Changing Ecosystem across Age, Environment, Diet, and Diseases.

Rinninella E(1)(2), Raoul P(3), Cintoni M(4), Franceschi F(5)(6), Miggiano GAD(7)(8), Gasbarrini A(9)(10), Mele MC(11)(12).

Author information:
(1)UOC di Nutrizione Clinica, Dipartimento di Scienze Gastroenterologiche, Endocrino-Metaboliche e Nefro-Urologiche, Fondazione Policlinico Universitario A. Gemelli IRCCS, 00168 Rome, Italy. emanuele.rinninella@unicatt.it.

(2)Istituto di Patologia Speciale Medica, Università Cattolica del Sacro Cuore, 00168 Rome, Italy. emanuele.rinninella@unicatt.it.
(3)Istituto di Patologia Speciale Medica, Università Cattolica del Sacro Cuore, 00168 Rome, Italy. pauline.raoul1@gmail.com.
(4)Scuola di Specializzazione in Scienza dell'Alimentazione, Università di Roma Tor Vergata, 00133 Rome, Italy. marco.cintoni@gmail.com.
(5)UOC di Medicina d'Urgenza e Pronto Soccorso, Dipartimento di Scienze dell'Emergenza, Anestesiologiche e della Rianimazione, Fondazione Policlinico Universitario A. Gemelli IRCCS, 00168 Rome, Italy. francesco.franceschi@unicatt.it.
(6)Istituto di Medicina Interna e Geriatria, Università Cattolica del Sacro Cuore, 00168 Rome, Italy. francesco.franceschi@unicatt.it.
(7)UOC di Nutrizione Clinica, Dipartimento di Scienze Gastroenterologiche, Endocrino-Metaboliche e Nefro-Urologiche, Fondazione Policlinico Universitario A. Gemelli IRCCS, 00168 Rome, Italy. giacintoabele.miggiano@unicatt.it.
(8)Istituto di Patologia Speciale Medica, Università Cattolica del Sacro Cuore, 00168 Rome, Italy. giacintoabele.miggiano@unicatt.it.
(9)Istituto di Patologia Speciale Medica, Università Cattolica del Sacro Cuore, 00168 Rome, Italy. antonio.gasbarrini@unicatt.it.
(10)UOC di Medicina Interna e Gastroenterologia, Dipartimento di Scienze Gastroenterologiche, Endocrino-Metaboliche e Nefro-Urologiche, Fondazione Policlinico Universitario A. Gemelli IRCCS, 00168 Rome, Italy. antonio.gasbarrini@unicatt.it.
(11)UOC di Nutrizione Clinica, Dipartimento di Scienze Gastroenterologiche, Endocrino-Metaboliche e Nefro-Urologiche, Fondazione Policlinico Universitario A. Gemelli IRCCS, 00168 Rome, Italy. mariacristina.mele@unicatt.it.
(12)Istituto di Patologia Speciale Medica, Università Cattolica del Sacro Cuore, 00168 Rome, Italy. mariacristina.mele@unicatt.it.

Each individual is provided with a unique gut microbiota profile that plays many specific functions in host nutrient metabolism, maintenance of structural integrity of the gut mucosal barrier, immunomodulation, and protection against pathogens. Gut microbiota are composed of different bacteria species taxonomically classified by genus, family, order, and phyla. Each human's gut microbiota are shaped in early life as their composition depends on infant transitions (birth gestational date, type of delivery, methods of milk feeding, weaning period) and external factors such as antibiotic use. These personal and healthy core native microbiota remain relatively stable in adulthood but differ between individuals due to enterotypes, body mass index (BMI) level, exercise frequency, lifestyle, and cultural and dietary habits. Accordingly, there is not a unique optimal gut microbiota composition since it is different for each individual. However, a healthy host⁻microorganism balance must be respected in order to optimally perform metabolic and immune functions and prevent disease development. This review will provide an overview of the studies that focus on gut microbiota balances in the same individual and between individuals and highlight the close mutualistic relationship between gut microbiota variations and diseases. Indeed, dysbiosis of gut microbiota is associated not only with intestinal disorders but also with numerous extra-intestinal diseases such as metabolic and neurological disorders. Understanding the cause or consequence of these gut microbiota balances in health and disease and how to maintain or restore a healthy gut microbiota composition should be useful in developing promising therapeutic interventions.

DOI: 10.3390/microorganisms7010014
PMID: 30634578

41. Int J Sport Nutr Exerc Metab. 2019 Jan 11:1-33. doi: 10.1123/ijsnem.2018-0309. [Epub ahead of print]

Dietary Practices Adopted by Track and Field Athletes: Gluten-Free, Low FODMAP, Vegetarian and Fasting.

Lis DM(1), Kings D(2), Larson-Meyer E(3).

Author information:
(1)1 Department of Neurobiology, Physiology & Behavior, University of California Davis, Davis, CA.
(2)2 Aspetar Sports Medicine & Orthopedic Hospital, Doha, Qatar.
(3)3 Department of Family & Consumer Sciences, University of Wyoming, Laramie, WY.

Some track and field athletes implement special diets aiming to improve health and/or performance. An evidence-based approach to any diet is recommended to minimize the risks associated with unnecessary dietary restriction, which may potentially do more harm than good. Four prevalent diets are reviewed in the following manuscript: (1) gluten-free (GFD) and (2) low FODMAP (fermentable oligo-, di-, monosaccharides and polyols) (3) vegetarian, and; (4) fasting diets. Recently, GFDs and low FODMAP diets have emerged as novel regimes thought to improve gastrointestinal health and reduce the risk of exercise associated gastrointestinal symptoms. No direct beneficial outcomes have been associated with avoiding gluten for clinically healthy athletes. Indirectly, a GFD is associated with other dietary changes, particularly FODMAP reduction, which may improve adverse gastrointestinal symptoms. Vegetarian diets can optimally support athletic demands. However, attention is required to ensure adequate energy and intake of specific nutrients that are less abundant or less well absorbed from plant sources. Lastly, fasting is a longstanding concept that is undertaken on a voluntary and obligatory basis. Despite limited supporting research voluntary fasting is a popular alternative to conventional diets perceptually offering health and body composition benefits. Strict obligatory fasting guidelines likely require the implementation of tailored nutrition strategies to help athletes cope with athletic demands. Overall, a multitude of factors influence adherence to special diets. Even when adherence to a special diet is a necessity, education and advice from an accredited dietitian/nutritionist is recommended for track and field athletes to optimize nutrition for health and performance.

DOI: 10.1123/ijsnem.2018-0309
PMID: 30632437

42. Clin Drug Investig. 2019 Jan 10. doi: 10.1007/s40261-018-00745-6. [Epub ahead of print]

Clinical Characteristics of Japanese Patients with Palmoplantar Pustulosis.

Yamamoto T(1).

Author information:
(1)Department of Dermatology, Fukushima Medical University, Hikarigaoka 1, Fukushima, 960-1295, Japan. toyamade@fmu.ac.jp.

Palmoplantar pustulosis (PPP) is a chronic inflammatory disorder characterized by sterile pustules predominantly involving the palms and soles. The purpose of this review was to describe the characteristics of Japanese PPP patients as PPP is

frequently observed within the Japanese population. Most Japanese dermatologists consider PPP a distinct entity, and co-existence of PPP and psoriasis is rare; however, outside Japan, PPP is often considered to be palmoplantar psoriasis, and an extra-palmoplantar lesion associated with PPP is considered to be psoriasis. PPP frequently develops or exacerbates following focal infections such as tonsillitis, odontogenic infection, and sinusitis, either with or without arthralgia. Pustulotic arthro-osteitis (PAO) is a major comorbidity of PPP, most often affecting the anterior chest wall. In Japanese patients, PAO is frequently seen, whereas cases of SAPHO (synovitis, acne, pustulosis, hyperostosis, osteitis) syndrome with symptoms other than PPP and sternocostoclavicular joint pain are extremely rare. A difference in incidence depending on race suggests that different genetic backgrounds may be responsible for susceptibility to these disorders. The treatment of focal infections often results in dramatic effects on cutaneous lesions, as well as joint pain. The characteristics of Japanese patients with PPP are female predominance, mostly smokers, rare co-existence with psoriasis, frequent association with PAO, almost no accompanying celiac disease, and closely associated with focal infection. PPP should be separately considered from palmoplantar psoriasis.

DOI: 10.1007/s40261-018-00745-6
PMID: 30632109

43. Arch Osteoporos. 2019 Jan 10;14(1):7. doi: 10.1007/s11657-019-0557-6.

An unusual Chinese case of celiac disease presenting as hypocalcemia and low bone density.

Wang K(1), Jiang C(2), Jia H(1), Zhang X(1), Sun Z(3), Zhu M(4).

Author information:
(1)Department of Endocrinology and Metabolism, Tianjin Medical University General Hospital, No. 154 Anshan Road, Heping District, Tianjin, 300052, China.
(2)Department of Pathology, Tianjin Medical University General Hospital, No. 154 Anshan Road, Heping District, Tianjin, 300052, China.
(3)Department of Endocrinology and Gastroenterology, Tianjin Hongqiao Hospital, No. 44 Dingzigu Road, Hongqiao District, Tianjin, 300052, China.
(4)Department of Endocrinology and Metabolism, Tianjin Medical University General Hospital, No. 154 Anshan Road, Heping District, Tianjin, 300052, China. meichuqin@163.com.

DOI: 10.1007/s11657-019-0557-6
PMID: 30631967

44. Nat Rev Dis Primers. 2019 Jan 10;5(1):3. doi: 10.1038/s41572-018-0054-z.

Coeliac disease.

Lindfors K(1), Ciacci C(2), Kurppa K(3), Lundin KEA(4), Makharia GK(5), Mearin ML(6), Murray JA(7), Verdu EF(8), Kaukinen K(9).

Author information:
(1)Celiac Disease Research Center, Faculty of Medicine and Life Sciences, University of Tampere, Tampere, Finland.
(2)Coeliac Center at Department of Medicine and Surgery, Scuola Medica Salernitana, University of Salerno, Salerno, Italy.

(3)Tampere Center for Child Health, University of Tampere and Tampere University Hospital, Tampere, Finland.
(4)Institute of Clinical Medicine and K.G. Jebsen Coeliac Disease Research Centre, Faculty of Medicine, University of Oslo, and Department of Gastroenterology, Oslo University Hospital, Oslo, Norway.
(5)Department of Gastroenterology and Human Nutrition, All India Institute of Medical Sciences, New Delhi, India.
(6)Department of Pediatrics, Leiden University Medical Center, Leiden, Netherlands.
(7)The Mayo Clinic, Rochester, MN, USA.
(8)Division of Gastroenterology, Department of Medicine, Farncombe Family Digestive Health Research Institute, McMaster University, Hamilton, Ontario, Canada.
(9)Department of Internal Medicine, Tampere University Hospital and Faculty of Medicine and Life Sciences, University of Tampere, Tampere, Finland.
katri.kaukinen@uta.fi.

Coeliac disease is an immune-mediated enteropathy against dietary gluten present in wheat, rye and barley and is one of the most common lifelong food-related disorders worldwide. Coeliac disease is also considered to be a systemic disorder characterized by a variable combination of gluten-related signs and symptoms and disease-specific antibodies in addition to enteropathy. The ingestion of gluten leads to the generation of harmful gluten peptides, which, in predisposed individuals, can induce adaptive and innate immune responses. The clinical presentation is extremely variable; patients may have severe gastrointestinal symptoms and malabsorption, extraintestinal symptoms or have no symptoms at all. Owing to the multifaceted clinical presentation, diagnosis remains a challenge and coeliac disease is heavily underdiagnosed. The diagnosis of coeliac disease is achieved by combining coeliac disease serology and small intestinal mucosal histology during a gluten-containing diet. Currently, the only effective treatment for coeliac disease is a lifelong strict gluten-free diet; however, the diet is restrictive and gluten is difficult to avoid. Optimizing diagnosis and care in coeliac disease requires continuous research and education of both patients and health-care professionals.

DOI: 10.1038/s41572-018-0054-z
PMID: 30631077

45. Nat Rev Dis Primers. 2019 Jan 10;5(1):4. doi: 10.1038/s41572-019-0059-2.

Coeliac disease.

[No authors listed]

DOI: 10.1038/s41572-019-0059-2
PMID: 30631075

46. J Coll Physicians Surg Pak. 2019 Jan;29(1):51-57. doi: 10.29271/jcpsp.2019.01.51.

Non-Celiac Gluten Sensitivity: A Systematic Review.

Tanveer M(1), Ahmed A(1).

Author information:
(1)Department of Pharmacy, Quaid-i-Azam University, Islamabad, Pakistan.

Non-celiac gluten sensitivity (NCGS) is a wheat associated disorder diagnosed by exclusion diagnosis. This review was conducted to collect current information about NCGS, clinical and pathologic manifestations, and problems faced by health professionals. It also highlights the obstacles faced when adopting a gluten-free diet. A search of international literature was conducted through PubMed and Google Scholar till September 2017. The heterogeneous groups of patients affected by NCGS are composed of a number of subgroups, and each demonstrates different clinical and pathological manifestations. The presence of certain underlying factors can be utilised to identify susceptible individuals, namely, incidence of food allergies in infancy, anti-gliadin IgG-antibodies, activation test for flow cytometric basophils, atopy, and increased intraepithelial duodenal eosinophil presence. There is urgent need for reliable biomarkers to decisively diagnose and differentiate NCGS from related disorders. Patients willing to adopt gluten-free products have to choose from products which have high fat and sugar content.

DOI: 10.29271/jcpsp.2019.01.51
PMID: 30630570

47. Proc Nutr Soc. 2019 Jan 11:1-8. doi: 10.1017/S002966511800277X. [Epub ahead of print]

Identifying and improving adherence to the gluten-free diet in people with coeliac disease.

Muhammad H(1), Reeves S(1), Jeanes YM(1).

Author information:
(1)Department of Life Sciences,University of Roehampton,London SW15 4JD,UK.

Coeliac disease (CD) is an autoimmune gastrointestinal disorder whereby the ingestion of gluten, a storage protein found in wheat, barley and rye, causes damage to intestinal mucosa with resultant malabsorption, increased risk of anaemia and osteoporosis. Worldwide estimates suggest 1% of the population have CD. With no cure, the only treatment is a gluten-free diet (GFD). Adhering to a GFD can be very challenging; it requires knowledge, motivation and modified behaviours. Assessing adherence to a GFD is methodologically challenging. This review aims to provide an overview of the literature reporting adherence to a GFD in people with CD and the methodological challenges encountered. From six studies it has been reported that rates of adherence to a GFD range between 45 and 90% in patients of different ethnicities with CD. GF dietary adherence can be influenced by age at diagnosis, coexisting depression, symptoms on ingestion of gluten, nutrition counselling, knowledge of GF foods, understanding of food labels, cost and availability of GF foods, receiving GF foods on prescription and membership of a coeliac society. To date only five intervention studies in adults with CD have been undertaken to improve GF dietary adherence. These have included dietary and psychological counselling, and the use of online training programmes, apps, text messages and telephonic clinics. Future interventions should include people of all ethnicities, consider patient convenience and the cost-effectiveness for the healthcare environment.

DOI: 10.1017/S002966511800277X
PMID: 30630540

48. Gut Liver. 2019 Jan 11. doi: 10.5009/gnl18384. [Epub ahead of print]

Overview of Deep Learning in Gastrointestinal Endoscopy.

Min JK(1), Kwak MS(1), Cha JM(1).

Author information:
(1)Department of Internal Medicine, Kyung Hee University School of Medicine, Seoul, Korea.

Artificial intelligence is likely to perform several roles currently performed by humans, and the adoption of artificial intelligence-based medicine in gastroenterology practice is expected in the near future. Medical image-based diagnoses, such as pathology, radiology, and endoscopy, are expected to be the first in the medical field to be affected by artificial intelligence. A convolutional neural network, a kind of deep-learning method with multilayer perceptrons designed to use minimal preprocessing, was recently reported as being highly beneficial in the field of endoscopy, including esophagogastroduodenoscopy, colonoscopy, and capsule endoscopy. A convolutional neural network-based diagnostic program was challenged to recognize anatomical locations in esophagogastroduodenoscopy images, Helicobacter pylori infection, and gastric cancer for esophagogastroduodenoscopy; to detect and classify colorectal polyps; to recognize celiac disease and hookworm; and to perform small intestine motility characterization of capsule endoscopy images. Artificial intelligence is expected to help endoscopists provide a more accurate diagnosis by automatically detecting and classifying lesions; therefore, it is essential that endoscopists focus on this novel technology. In this review, we describe the effects of artificial intelligence on gastroenterology with a special focus on automatic diagnosis, based on endoscopic findings.

DOI: 10.5009/gnl18384
PMID: 30630221

49. Clin Gastroenterol Hepatol. 2019 Jan 5. pii: S1542-3565(19)30010-2. doi: 10.1016/j.cgh.2018.12.037. [Epub ahead of print]

Substantial Increase in Anesthesia Assistance for Outpatient Colonoscopy and Associated Cost Nationwide.

Krigel A(1), Chen L(2), Wright JD(3), Lebwohl B(4).

Author information:
(1)Department of Medicine, College of Physicians and Surgeons, Columbia University, New York, USA.
(2)Department of Obstetrics and Gynecology, Columbia University, New York, USA.
(3)Department of Obstetrics and Gynecology, Columbia University, New York, USA; Herbert Irving Comprehensive Cancer Center, College of Physicians and Surgeons, Columbia University, New York, USA.
(4)Department of Medicine, College of Physicians and Surgeons, Columbia University, New York, USA; Celiac Disease Center, Department of Medicine, Columbia University College of Physicians and Surgeons, New York, USA; Department of Epidemiology, Mailman School of Public Health, Columbia University, New York, USA. Electronic address: BL114@columbia.edu.

BACKGROUND AND AIMS: The use of anesthesia assistance (AA) for outpatient colonoscopy has been increasing over the past decade, raising concern over its effects on procedure safety, quality, and cost. We performed a nationwide

claims-based study to determine regional, patient-related, and facility-related patterns of anesthesia use as well as cost implications of AA for payers.
METHODS: We analyzed the Premier Perspective database to identify patients undergoing outpatient colonoscopy at over 600 acute-care hospitals throughout the United States from 2006 through 2015, with or without AA. We used multivariable analysis to identify factors associated with AA and cost.
RESULTS: We identified 4,623,218 patients who underwent outpatient colonoscopy. Of these, 1,671,755 (36.2%) had AA; the proportion increased from 16.7% in 2006 to 58.1% in 2015 (P<.001). Factors associated with AA included younger age (odds ratios [ORs], compared to patients 18-39 years old: 0.94, 0.82, 0.77, 0.72, and 0.77 for age groups 40-49 years, 50-59 years, 60-69 years, 70-79 years, and ≥80 years, respectively); and female sex (OR, 0.96 for male patients compared to female patients; 95% CI, 0.95-0.96). Black patients were less likely to receive AA than white patients (OR, 0.81; 95% CI, 0.81-0.82), although this difference decreased with time. The median cost of outpatient colonoscopy with AA was higher among all payers, ranging from $182.43 (95% CI, $180.80-$184.06) higher for patients with commercial insurance to $232.62 (95% CI, $222.58-$242.67) higher for uninsured patients.
CONCLUSIONS: In an analysis of a database of patients undergoing outpatient colonoscopy throughout the United States, we found that the use of AA during outpatient colonoscopy increased significantly from 2006 through 2015, associated with increased cost for all payers. The increase in anesthesia use mandates evaluation of its safety and effectiveness in colorectal cancer screening programs.

DOI: 10.1016/j.cgh.2018.12.037
PMID: 30625407

50. Magn Reson Chem. 2019 Jan 8. doi: 10.1002/mrc.4829. [Epub ahead of print]

Characterization of Gluten-free Bread Crumb baked at Atmospheric and Reduced Pressures using TD-NMR.

Rondeau-Mouro C(1), Godfrin C(1), Cambert M(1), Rouillac J(1), Diascorn Y(1), Lucas T(1), Grenier D(1).

Author information:
(1)Irstea, MRIFood team, 17 Avenue de Cucillé, CS 64427, F-35044, Rennes, France.

This research aimed to study the effects of using a partial vacuum for bread baking on macromolecules and water distribution in gluten-free bread. Bread baking under partial vacuum results in greater oven-rise and a larger gas fraction in the crumb. Since water's boiling point decreases under reduced pressure, it was expected that its distribution within the dough and its interactions with the others dough's constituents (mainly starch) would differ from those in bread baked under atmospheric pressure. Time-Domain Nuclear Magnetic Resonance (TD-NMR) was used, as it has the rare capacity to quantify both gelatinization and retrogradation of starch. Complementary rheological measurements made it possible to show that crumb Young's modulus was mostly influenced by the gas fraction while there was little change in starch gelatinization and retrogradation when dough was baked under partial vacuum. When insufficiently hydrated (48%), the volume of breads was practically the same whatever the baking process. Meanwhile, the NMR results suggested that amylose short-term crystallization (on cooling) is dependent on water content. In

addition, crumb Young's modulus during storage at room temperature correlated with an increase in FID signal intensity.

DOI: 10.1002/mrc.4829
PMID: 30623478

51. Med Sci (Basel). 2019 Jan 4;7(1). pii: E5. doi: 10.3390/medsci7010005.

Spotlight on the Transglutaminase 2-Heparan Sulfate Interaction.

Furini G(1), Verderio EAM(2)(3).

Author information:
(1)School of Science and Technology, Nottingham Trent University, Nottingham NG11 8NS, UK. giuliafurini@gmail.com.
(2)School of Science and Technology, Nottingham Trent University, Nottingham NG11 8NS, UK. elisabetta.verderio-edwards@ntu.ac.uk.
(3)BiGeA, University of Bologna, 40126 Bologna, Italy. elisabetta.verderio-edwards@ntu.ac.uk.

Heparan sulfate proteoglycans (HSPGs), syndecan-4 (Sdc4) especially, have been suggested as potential partners of transglutaminase-2 (TG2) in kidney and cardiac fibrosis, metastatic cancer, neurodegeneration and coeliac disease. The proposed role for HSPGs in the trafficking of TG2 at the cell surface and in the extracellular matrix (ECM) has been linked to the fibrogenic action of TG2 in experimental models of kidney fibrosis. As the TG2-HSPG interaction is largely mediated by the heparan sulfate (HS) chains of proteoglycans, in the past few years a number of studies have investigated the affinity of TG2 for HS, and the TG2 heparin binding site has been mapped with alternative outlooks. In this review, we aim to provide a compendium of the main literature available on the interaction of TG2 with HS, with reference to the pathological processes in which extracellular TG2 plays a role.

DOI: 10.3390/medsci7010005
PMID: 30621228

52. Saudi Med J. 2019 Jan;40(1):9-18. doi: 10.15537/smj.2019.1.23892.

Celiac disease among at-risk individuals in Saudi Arabia.

Safi MA(1).

Author information:
(1)Department of Medical Microbiology and Parasitology, Faculty of Medicine, King Abdulaziz University, Jeddah, Kingdom of Saudi Arabia. E-mail. aymansafi3@hotmail.com.

OBJECTIVES: To perform a meta-analysis for celiac diseases (CD) among at-risk populations in Kingdom of Saudi Arabia (KSA), as well as a comparison with our previously reported meta-analysis in the normal population.
METHODS: In March 2018, at King Abdulaziz University, Jeddah, KSA we commenced a retrospective comprehensive database and journal search for CD among at-risk populations in SA. Data from each of the relevant articles were analyzed using

the Statistical Package for Social Science Version 20 (Armonk, NY: IBM Corp.). and the comprehensive meta-analysis program (CMA). The collected data were part of a retrospective literature review and analysis. Thus, a written ethical approval was not obtained before commencing the study. Results: Sixteen articles were found covering type-1 diabetes mellitus (DM), short stature (SS), and down syndrome (DS). Ages 1-50 years . The prevalence of seropositive-CD was 15.6% with high heterogeneity (I2=80.353), while prevalence of biopsy-proven CD was 10.6% with high heterogeneity (I2=73.359). Another article reported the CD prevalence in the at-risk population as 18.4% for the seroprevalence and 6.9% for the biopsy-proven CD. Anti-transglutaminase (anti-tTG) was used in 12 studies; in the remaining 4 studies (EMA in 2, ARA with AGA in one and no details given in one study). Conclusion: Both the prevalence of biopsy-proven CD (10.6%) and seroprevalence (15.6%) were higher than those we previously reported in the normal population (1.4% and 2.7%). The female-to-male ratio (1.9/1) of CD patients was the same in normal and at-risk populations in SA. Meta-analysis for prevalence of CD in DM, SS, and DS separately in SA is recommended.

DOI: 10.15537/smj.2019.1.23892
PMID: 30617375

53. Int J Food Sci Nutr. 2019 Jan 8:1-8. doi: 10.1080/09637486.2018.1551336. [Epub ahead of print]

Analysis of ingredient and nutritional labeling of commercially available gluten-free bread in Brazil.

Santos FG(1), Aguiar EV(1), Capriles VD(1).

Author information:
(1)a Departamento de Biociências , Universidade Federal de São Paulo , Santos , Brasil.

This study aimed at evaluating the ingredients and nutritional information of commercially-available gluten-free bread (GFB) in Brazil. A total of 128 products were studied, of which 87% presented the sandwich loaf shape. Traditional GFBs (n = 114) had as main ingredient the refined rice flour and starches, whereas alternative ones (n = 14) presented whole rice flour. Raw materials suggested by science to improve nutrients and bioactive compounds of gluten-free foodstuffs were observed in the ingredient list of most products (n = 86); however, they were used in lower levels, thus no significant differences were observed for nutritional information between the different categories of GFB. No products with added vitamins or minerals were found, though 77% of them included hydrocolloids in their formulations - other food additives were also observed. Despite the increased gluten-free food market, there is still a gap between science and market, especially regarding the approaches to improve the GFB diversity and nutritional quality.

DOI: 10.1080/09637486.2018.1551336
PMID: 30616431

54. Ann Surg Oncol. 2019 Jan 4. doi: 10.1245/s10434-018-07101-0. [Epub ahead of print]

Outcomes and Risk Score for Distal Pancreatectomy with Celiac Axis Resection (DP-CAR): An International Multicenter Analysis.

Klompmaker S(1), Peters NA(2)(3), van Hilst J(1), Bassi C(4), Boggi U(5), Busch OR(1), Niesen W(6), Van Gulik TM(1), Javed AA(2), Kleeff J(7), Kawai M(8), Lesurtel M(9), Lombardo C(5), Moser AJ(10), Okada KI(8), Popescu I(11), Prasad R(12), Salvia R(4), Sauvanet A(13), Sturesson C(14), Weiss MJ(2), Zeh HJ(15), Zureikat AH(16), Yamaue H(8), Wolfgang CL(2), Hogg ME(17), Besselink MG(18); E-AHPBA DP-CAR study group.

Collaborators: Gerritsen SL, Adham M, Albiol Quer MT, Berrevoet F, Cesaretti M, Dalla Valle R, Darnis B, Diener MK, Del Chiaro M, Hackert TH, Grützmann R, Dumitrascu T, Friess H, Hirono S, Ivanecz A, Karayiannakis A, Fusai GK, Labori KJ, López-Ben S, Mabrut JY, Miyazawa M, Niesen W, Pardo F, Perinel J, Roeyen G.

Author information:
(1)Department of Surgery, Cancer Center Amsterdam, Amsterdam UMC, University of Amsterdam, Amsterdam, The Netherlands.
(2)Department of Surgery, Johns Hopkins Hospital, Baltimore, MD, USA.
(3)Department of Surgery, University of Utrecht Medical Center, Utrecht, The Netherlands.
(4)Department of Surgery, Pancreas Institute University of Verona, Verona, Italy.
(5)Division of General and Transplant Surgery, University of Pisa, Pisa, Italy.
(6)Department of General, Visceral and Transplantation Surgery, Heidelberg University, Heidelberg, Germany.
(7)Department of Visceral, Vascular and Endocrine Surgery, Martin-Luther-University Halle-Wittenberg, Halle, Saale, Germany.
(8)Second Department of Surgery, Wakayama Medical University, Wakayama, Japan.
(9)Department of Surgery and Liver Transplantation, Croix-Rousse University Hospital, Hospices Civils de Lyon, University of Lyon I, Lyon, France.
(10)The Pancreas and Liver Institute, Beth Israel Deaconess Medical Center, Harvard Medical School, Boston, MA, USA.
(11)Center of General Surgery and Liver Transplant, Fundeni Clinical Institute, Bucharest, Romania.
(12)Department of HPB and Transplant Services, National Health Service, Leeds, UK.
(13)Department of HPB Surgery, Hôpital Beaujon, APHP, University Paris VII, Clichy, France.
(14)Division of Surgery, Department for Clinical Science, Intervention and Technology (CLINTEC), Karolinska Institutet at Karolinska University Hospital, Stockholm, Sweden.
(15)Department of Surgery, University of Texas Southwestern Medical Center, Dallas, TX, USA.
(16)Department of Surgery, University of Pittsburgh Medical Center, Pittsburgh, PA, USA.
(17)Department of Surgery, Northshore University HealthSystem, Chicago, IL, USA.
(18)Department of Surgery, Cancer Center Amsterdam, Amsterdam UMC, University of Amsterdam, Amsterdam, The Netherlands. m.g.besselink@amc.nl.

BACKGROUND: Distal pancreatectomy with celiac axis resection (DP-CAR) is a treatment option for selected patients with pancreatic cancer involving the celiac axis. A recent multicenter European study reported a 90-day mortality rate of 16%, highlighting the importance of patient selection. The authors constructed a risk score to predict 90-day mortality and assessed oncologic outcomes.
METHODS: This multicenter retrospective cohort study investigated patients undergoing DP-CAR at 20 European centers from 12 countries (model design 2000-2016) and three very-high-volume international centers in the United States and Japan (model validation 2004-2017). The area under receiver operator curve (AUC) and calibration plots were used for validation of the 90-day mortality risk

model. Secondary outcomes included resection margin status, adjuvant therapy, and survival.
RESULTS: For 191 DP-CAR patients, the 90-day mortality rate was 5.5% (95 confidence interval [CI], 2.2-11%) at 5 high-volume (≥ 1 DP-CAR/year) and 18% (95 CI, 9-30%) at 18 low-volume DP-CAR centers (P = 0.015). A risk score with age, sex, body mass index (BMI), American Society of Anesthesiologists (ASA) score, multivisceral resection, open versus minimally invasive surgery, and low- versus high-volume center performed well in both the design and validation cohorts (AUC, 0.79 vs 0.74; P = 0.642). For 174 patients with pancreatic ductal adenocarcinoma, the R0 resection rate was 60%, neoadjuvant and adjuvant therapies were applied for respectively 69% and 67% of the patients, and the median overall survival period was 19 months (95 CI, 15-25 months).
CONCLUSIONS: When performed for selected patients at high-volume centers, DP-CAR is associated with acceptable 90-day mortality and overall survival. The authors propose a 90-day mortality risk score to improve patient selection and outcomes, with DP-CAR volume as the dominant predictor.

DOI: 10.1245/s10434-018-07101-0
PMID: 30610560

55. Nutrients. 2019 Jan 3;11(1). pii: E82. doi: 10.3390/nu11010082.

Appetite and Gastrointestinal Hormone Response to a Gluten-Free Meal in Patients with Coeliac Disease.

Vitaglione P(1), Zingone F(2), Virgilio N(3), Ciacci C(4).

Author information:
(1)Department of Agricultural Sciences, University of Naples "Federico II", 80055 Portici, Italy. paola.vitaglione@unina.it.
(2)Department of Surgery, Oncology, and Gastroenterology, University of Padua, 35100 Padua, Italy. fabiana.zingone@unipd.it.
(3)Department of Agricultural Sciences, University of Naples "Federico II", 80055 Portici, Italy. nicolina.virgilio@unina.it.
(4)Department of Medicine, Surgery, and Dentistry, "Scuola Medica Salernitana" University of Salerno, 84084 Fisciano, Italy. cciacci@unisa.it.

Coeliac disease (CeD) is an immune-mediated inflammatory enteropathy triggered by the ingestion of gluten in genetically susceptible individuals. Gastrointestinal (GI) hormone response related to appetite and glucose metabolism is still under-investigated in patients with CeD. This study aimed at shedding light on the appetite sensations, glycaemia and hormone response induced by a complex meal in patients with coeliac disease. Twenty-two women with CeD, nine at the diagnosis (CeDD) and thirteen under a gluten-free diet (CeDGF), and ten healthy subjects (HS) were enrolled in a single day intervention study. All subjects consumed a test meal, recorded their appetite sensations, and blood was collected over three hours after meal consumption. The study found a lower decrease in hunger in CeDD compared to CeDGF and HS after meal intake. Data showed no difference of fullness and satiety between the groups. CeDD had lower insulin and glucose-dependent insulinotropic polypeptide (GIP) than CeDGF and HS. Both CeDD and CeDGF experienced a lower post-prandial response of glucose than HS. Data suggested that patients with CeD have an impaired glucose absorption after more than 12 months of gluten-free diet. Postprandial GIP may play a significant role in appetite cues and insulin response to a complex meal.

DOI: 10.3390/nu11010082

PMID: 30609862

56. Scand J Gastroenterol. 2018 Dec;53(12):1469-1475. doi: 10.1080/00365521.2018.1543446. Epub 2019 Jan 2.

Validating microscopic colitis (MC) in Swedish pathology registers.

Svensson M(1), Bergman D(2), Olén O(3)(4), Myrelid P(5)(6), Bohr J(7), Wickbom A(7), Khalili H(3)(8), Münch A(9), Halfvarson J(7), Ludvigsson JF(1)(2)(10)(11).

Author information:
(1)a Department of Paediatrics , Örebro University Hospital , Örebro , Sweden.
(2)b Department of Medical Epidemiology and Biostatistics , Karolinska Institutet , Stockholm , Sweden.
(3)c Department of Medicine Solna, Clinical Epidemiology Unit , Karolinska Institutet , Stockholm , Sweden.
(4)d Sachs' Children and Youth Hospital , Stockholm South General Hospital , Stockholm , Sweden.
(5)e Department of Clinical and Experimental Medicine , Linköping University , Linköping, Sweden.
(6)f Department of Surgery , Linköping University Hospital , Linköping, Sweden.
(7)g Department of Gastroenterology, Faculty of Medicine and Health , Örebro University , Örebro, Sweden.
(8)h Gastroenterology Unit , Crohn's and Colitis Center, Massachusetts General Hospital, Harvard Medical School , Boston , MA , USA.
(9)i Department of Gastroenterology , Linköping University Hospital , Linköping, Sweden.
(10)j Division of Epidemiology and Public Health School of Medicine , University of Nottingham , Nottingham , UK.
(11)k Department of Medicine, College of Physicians and Surgeons , Columbia University , New York , NY , USA.

OBJECTIVE: Microscopic colitis (MC), encompassing collagenous colitis (CC) and lymphocytic colitis (LC), is a diagnosis which relies on histopathologic criteria. This report examines the validity of having a diagnosis of MC in Swedish pathology registers.
METHODS: We reviewed patient charts from 215 randomly selected individuals from 15 pathology departments in five healthcare regions in Sweden with a relevant histopathology code for MC on colon biopsies. Information on clinical symptoms and laboratory data were obtained from medical chart review. We obtained sufficient data on 211 individuals for calculating positive predictive values (PPVs) for MC.
RESULTS: In total, 200/211 patients with a histopathology diagnosis of MC were confirmed as also having a clinical diagnosis of MC after chart review, yielding a PPV of 95% (95%CI =91-97%). The PPV for CC was 95% (95%CI =87-98%) and 85% for LC (95%CI =78-90%). The median age at biopsy was 67 years (range 17-90 years), and 72% (n = 154) were women. The most common symptoms in patients with MC histopathology were diarrhea (96% of patients), weight loss (24%) and abdominal pain (13%). Four percent (4/111) of patients with available data on stool culture were positive for gastrointestinal pathogens (none had Clostridium difficile). In 81 patients with available celiac serology, five (6%) were positive. Twenty-six percent of all patients had at least one other autoimmune disease, the most frequent being hypothyroidism (8%) and celiac disease (6%).
CONCLUSIONS: This study found a high validity for MC as recorded in Swedish pathology registers.

DOI: 10.1080/00365521.2018.1543446
PMID: 30600733

57. J Gastroenterol Hepatol. 2019 Jan 1. doi: 10.1111/jgh.14596. [Epub ahead of print]

Prevalence and characteristics of celiac disease in South African patients with type 1 diabetes mellitus: Results from the Durban Diabetes and Celiac Disease Study.

Paruk IM(1), Naidoo VG(2), Pirie FJ(1), Maharaj S(1), Nkwanyana NM(3), Dinnematin HL(4), Ganie Y(5), Ramdial PK(6), Motala AA(1).

Author information:
(1)Department of Diabetes and Endocrinology, University of KwaZulu-Natal, Durban, South Africa.
(2)Department of Gastroenterology and Hepatology, University of KwaZulu-Natal, Durban, South Africa.
(3)Department of Public Health Medicine, University of KwaZulu-Natal, Durban, South Africa.
(4)Department of Haematology, Inkosi Albert Luthuli Central Hospital, Durban, South Africa.
(5)Department of Paediatrics, Inkosi Albert Luthuli Central Hospital, Durban, South Africa.
(6)Department of Anatomical Pathology, Inkosi Albert Luthuli Central Hospital, Durban, South Africa.

BACKGROUND AND AIM: The aim of this study was to assess the prevalence and characteristics of celiac disease (CD) in all patients with type 1 diabetes mellitus attending a tertiary adult diabetes clinic in Durban, South Africa.
METHODS: This was a cross-sectional observational study that screened 202 patients; of these, 56.4% were African (Black), 31.7% Asian Indian, 4.5% White, and 7.4% mixed race. Demographic data, symptoms, and anthropometry were documented. Blood tests included anti-tissue transglutaminase antibody (tTG), anti-endomysial antibody (EMA), and anti-gliadin antibody (AGA). Endoscopy and duodenal biopsy were performed in patients with celiac antibodies. Diagnosis of CD was based on the modified Marsh classification.
RESULTS: Mean age and mean duration of diabetes were 26.4 ± 11.4 and 10.7 ± 9.1 years, respectively. Celiac antibodies were found in 65 (32.2%) patients: EMA 7.4%, tTG immunoglobulin A (IgA) 8.4%, tTG immunoglobulin G 1.9%, AGA IgA 18.3%, and AGA immunoglobulin G 21.8%. Histological evidence of CD was found in 5.9% (n = 12/202): 2.5% were classed as definite CD (Marsh 3) and 3.4% as potential CD (Marsh 1). None of the patients with CD were symptomatic. The sensitivity of AGA IgA, EMA, and tTG IgA antibodies for detecting histologically proven CD was 66.7%, 50.0%, and 41.7%, respectively.
CONCLUSION: The prevalence of CD was similar to reports from western countries. No ethnic specific differences were noted. CD was silent in all patients in this study. The sensitivity of EMA and tTG antibodies was poor and merits further evaluation as screening tools for CD in South African patients with type 1 diabetes mellitus.

DOI: 10.1111/jgh.14596
PMID: 30600564

58. Ann Gastroenterol. 2019 Jan-Feb;32(1):73-80. doi: 10.20524/aog.2018.0323. Epub 2018 Nov 2.

Impact of bariatric surgery on outcomes of patients with celiac disease: a nationwide inpatient sample analysis, 2004-2014.

Sharma P(1)(2), McCarty TR(1), Lange A(1), Ngu JN(3), Njei B(4).

Author information:
(1)Department of Internal Medicine, Yale University School of Medicine, New Haven, CT (Prabin Sharma, Thomas R. McCarty, Andrew Lange).
(2)Department of Internal Medicine, Yale New Haven Health-Bridgeport Hospital, Bridgeport, CT (Prabin Sharma).
(3)Department of Surgery, University of Texas Medical Branch, Galveston, TX (Julius N. Ngu).
(4)Section of Digestive Diseases, Yale University School of Medicine, New Haven, CT (Basile Njei), USA.

Background: While patients with celiac disease have increasingly developed an atypical pattern of weight gain and obesity, the role of bariatric surgery remains unclear. The primary aim of this study was to evaluate the effect of bariatric surgery on clinical outcomes among hospitalized patients with celiac disease.
Methods: The United States Nationwide Inpatient Sample database was queried for discharges with co-diagnoses of morbid obesity and celiac disease between 2004 and 2014. The primary outcome was in-hospital mortality. Secondary outcomes included renal failure, urinary tract infection, malnutrition, sepsis, pneumonia, respiratory failure, thromboembolic events, strictures, micronutrient deficiency, length of stay, and hospitalization costs. Using Poisson regression, adjusted incidence risk ratios (IRR) were derived for clinical outcomes in patients with prior bariatric surgery compared to those without bariatric surgery.
Results: Among 1499 patients with a discharge diagnosis of celiac disease and morbid obesity, 126 patients (8.4%) underwent bariatric surgery. Despite an increase in morbid obesity over the study period, the proportion of morbidly obese patients with celiac disease who had bariatric surgery declined by 18.5% (Ptrend<0.05). On multivariable analysis, bariatric surgery did not influence mortality (P=0.98), but was associated with a lower risk of renal failure, pneumonia, sepsis, urinary tract infection and respiratory failure (all P<0.05). Bariatric surgery increased the risk of vitamin D deficiency (IRR 3.5; 95% confidence interval [CI] 1.6-7.7; P=0.002) and post-operative strictures (IRR 3.3; 95%CI 1.5-7.5; P=0.004).
Conclusion: Despite the underutilization of bariatric surgery in morbidly obese celiac disease patients, the procedure is safe and appears to significantly reduce morbidity.

DOI: 10.20524/aog.2018.0323
PMCID: PMC6302198
PMID: 30598595

Conflict of interest statement: Conflict of Interest: None.

59. Med Hypotheses. 2019 Jan;122:150-156. doi: 10.1016/j.mehy.2018.11.017. Epub 2018 Nov 27.

Versatility of fuzzy logic in chronic diseases: A review.

Thukral S(1), Rana V(2).

Author information:
(1)Department of CSA, Sant Baba Bhag Singh University, Jalandhar 144030, India. Electronic address: sunnythukral@davcollegeasr.org.
(2)Department of CSA, Sant Baba Bhag Singh University, Jalandhar 144030, India.

The review aims at providing current state of evidence in the field of medicine with fuzzy logic for diagnosing diseases. Literature reveals that fuzzy logic has been used effectively in medicine. Different types of methodologies have been applied to diagnose the diseases based on symptoms, historical and clinical data of an individual. Increase in the number of recent applications of medicine with fuzzy-logic is an indication of growing popularity of fuzzy systems. Fuzzy intelligent systems developed during 2007-2018 have been studied to explore various techniques applied for disease prediction. In the traditional approach, a physician is required to diagnose disease based on historical and clinical data but the intelligent system will help physicians as well as individuals to detect disease at any location of the world. The studies of various fuzzy logic systems and classified fuzzy logic applications in the field of diabetes, iris, heart, breast cancer, dental, cholera, brain tumor, liver, asthma, viral, parkinson, lung, kidney, huntington and chest diseases have been included in the review. This study indicates all the benefits of the fuzzy logic to the society and direction to tackle the diseases that still need software for their accurate detection. Further, different case studies for celiac disease have been reported earlier. The current review aims at exploring the future direction for fuzzy methodologies and domain on celiac disease.

DOI: 10.1016/j.mehy.2018.11.017
PMID: 30593401

60. FASEB J. 2019 Jan;33(1):3-12. doi: 10.1096/fj.201801544R.

Transglutaminase diseases: from biochemistry to the bedside.

Lorand L(1), Iismaa SE(2)(3).

Author information:
(1)Department of Cell and Molecular Biology, Northwestern University Feinberg School of Medicine, Chicago, Illinois, USA.
(2)Molecular Cardiology and Biophysics Division, Victor Chang Cardiac Research Institute, Darlinghurst, New South Wales, Australia.
(3)St Vincent's Clinical School, University of New South Wales, Kensington, New South Wales, Australia.

In humans, 9 members of the transglutaminase (TG) family have been identified, of which 8 [factor XIII (FXIII)A and TG1-TG7] catalyze post-translational protein-modifying reactions, and 1 does not (protein 4.2). The TG enzymatic activities considered in our discussion of human disease include deamidation of glutamine (Gln) residues, amine incorporation into Gln residues, and protein crosslinking. Except for TG7, which remains poorly studied, all individual TG members have been correlated with disparate human diseases that arise from either TG function or lack of function. Loss of TG function is associated with numerous

orphan diseases that affect a relatively small number of individuals: loss of FXIIIa (transamidase-activated form) crosslinking leads to defects in blood coagulation in FXIII deficiency; loss of TG1 and TG5 cross linking leads to defects in epidermal cornification in lamellar ichthyosis and acral peeling skin syndrome, respectively; loss of TG3 crosslinking in hair-cuticle formation leads to uncombable hair syndrome; the predicted loss of TG6 crosslinking leads to spinocerebellar ataxia-35; and loss of the structural erythrocyte membrane protein, protein 4.2, leads to hereditary spherocytosis type 5. The enzymatic activity of TG2 is involved in the exacerbation of celiac disease and in at least 1 case of hemoglobinopathy, characterized by shortened erythrocyte lifespan. TGs are also autoantigens in a number of immune diseases, resulting in the production of autoantibodies against FXIIIa in acquired FXIII deficiency, TG2 in celiac disease, TG3 in dermatitis herpetiformis, TG4 in autoimmume polyglandular syndrome type 1, and TG6 in gluten axonal neuropathy and gluten ataxia. Much still remains to be learned and confirmed with respect to disease mechanisms, particularly with respect to TG-related immune diseases, in which development of isozyme-specific inhibitors may be useful for treatment.-Lorand, L., Iismaa, S. E. Transglutaminase diseases: from biochemistry to the bedside.

DOI: 10.1096/fj.201801544R
PMID: 30593123

61. Aliment Pharmacol Ther. 2019 Feb;49(3):277-284. doi: 10.1111/apt.15109. Epub 2018 Dec 27.

Serology-based criteria for adult coeliac disease have excellent accuracy across the range of pre-test probabilities.

Fuchs V(1), Kurppa K(2), Huhtala H(3), Laurila K(1), Mäki M(2), Collin P(4), Salmi T(1)(5), Luostarinen L(6), Saavalainen P(7), Kaukinen K(1)(8).

Author information:
(1)Celiac Disease Research Center, Faculty of Medicine and Life Sciences, University of Tampere, Tampere, Finland.
(2)Tampere Center for Child Health Research, University of Tampere, and Department of Paediatrics, Tampere University Hospital, Tampere, Finland.
(3)Tampere Faculty of Social Sciences, University of Tampere, Tampere, Finland.
(4)Department of Gastroenterology and Alimentary Tract Surgery, Tampere University Hospital, Tampere, Finland.
(5)Department of Dermatology, Tampere University Hospital, Tampere, Finland.
(6)Department of Neurology, Päijät-Häme Central Hospital, Lahti, Finland.
(7)Research Programs Unit, Immunobiology, and Haartman Institute, Department of Medical Genetics, University of Helsinki, Helsinki, Finland.
(8)Department of Internal Medicine, Tampere University Hospital, Tampere, Finland.

BACKGROUND: The revised paediatric criteria for coeliac disease allow omission of duodenal biopsies in symptomatic children who have specific serology and coeliac disease-associated genetics. It remains unclear whether this approach is also applicable for adults with various clinical presentations.
AIM: To evaluate the accuracy of serology-based criteria in adults with variable pre-test probabilities for coeliac disease.
METHODS: Three study cohorts comprised adults with high-risk clinical coeliac disease suspicion (n = 421), moderate-risk family members of coeliac disease patients (n = 2357), and low-risk subjects from the general population (n = 2722). Serological and clinical data were collected, and "triple criteria"

for coeliac disease comprised transglutaminase 2 antibodies >10× the upper limit of normal, positive endomysium antibodies, and appropriate genetics without requirement of symptoms. The diagnosis was based on intestinal biopsy.
RESULTS: The diagnosis of coeliac disease was established in 274 subjects. Of these, 59 high-risk subjects, 17 moderate-risk subjects, and 14 low-risk subjects fulfilled the "triple criteria". All had histologically proven coeliac disease, giving the criteria a positive predictive value of 100%. Altogether, 90 (33%) of all 274 newly diagnosed patients could have avoided biopsy, including 37% among high-risk, 20% among moderate-risk, and 48% among low-risk patients. No histological findings other than coeliac disease were found in the biopsies of "triple positive" subjects.
CONCLUSIONS: Coeliac disease can reliably and safely be diagnosed without biopsy in adults fulfilling the "triple criteria" regardless of the pre-test probability. Revised criteria would enable the number of endoscopies to be reduced by one-third.

DOI: 10.1111/apt.15109
PMID: 30592070

62. Spine Deform. 2019 Jan;7(1):176-179. doi: 10.1016/j.jspd.2018.05.006.

Celiac Artery Syndrome After Correction of Kyphoscoliosis.

van Urk PR(1), Littooij AS(2), van Gestel JPJ(3), Kruyt MC(4).

Author information:
(1)Department of Orthopedics, University Medical Center Utrecht, Heidelberglaan 100 3584 CX, Utrecht, the Netherlands. Electronic address: P.R.vanUrk-2@umcutrecht.nl.
(2)Department of Radiology, Wilhelmina Children's Hospital (WKZ), University Medical Center Utrecht, Heidelberglaan 100 3584 CX, Utrecht, the Netherlands.
(3)Intensive Care Unit, Wilhelmina Children's Hospital (WKZ), University Medical Center Utrecht, Heidelberglaan 100 3584 CX, Utrecht, the Netherlands.
(4)Department of Orthopedics, University Medical Center Utrecht, Heidelberglaan 100 3584 CX, Utrecht, the Netherlands.

Compression of the celiac artery by a tight arcuate ligament of the diaphragm is a rare syndrome that can arise after correction of severe kyphosis. Symptoms include abdominal pain and ileus and liver dysfunctions. These symptoms can be easily attributed to more common causes like the superior mesenteric artery syndrome, and a delay in the diagnosis of celiac artery obstruction may result in severe ischemic disease of the gastrointestinal tract. We present a case of celiac artery syndrome after correction of a kyphoscoliosis with severe sequelae that has not been documented before.

DOI: 10.1016/j.jspd.2018.05.006
PMID: 30587313

63. Food Chem. 2019 Apr 25;278:820-822. doi: 10.1016/j.foodchem.2018.12.003. Epub 2018 Dec 5.

We might have got it wrong: Modern wheat is not more toxic for celiac patients.

Ribeiro M(1), Nunes FM(2).

Author information:
(1)CQ-VR, Chemistry Research Centre, Chemistry Department, University of Trás-os-Montes and Alto Douro, 5000-801 Vila Real, Portugal. Electronic address: jmribeiro@utad.pt.
(2)CQ-VR, Chemistry Research Centre, Chemistry Department, University of Trás-os-Montes and Alto Douro, 5000-801 Vila Real, Portugal.

If there is a disease in which many myths are part of the daily lives of both patients and clinicians as well as researchers, this must be celiac disease. Here, we discuss the possibility that modern wheat varieties used by man do not have led to the increased prevalence of celiac disease.

DOI: 10.1016/j.foodchem.2018.12.003
PMID: 30583448

64. Food Chem. 2019 Apr 25;278:579-586. doi: 10.1016/j.foodchem.2018.11.096. Epub 2018 Nov 22.

Aggregation behavior of semolina gluten during dough production and fresh pasta cooking upon kansui treatment.

Chen G(1), Li Y(2).

Author information:
(1)Cereal Chemistry Laboratory, Department of Grain Science and Industry, Kansas State University, Manhattan, KS 66506, United States.
(2)Cereal Chemistry Laboratory, Department of Grain Science and Industry, Kansas State University, Manhattan, KS 66506, United States. Electronic address: yonghui@ksu.edu.

Sodium salt reduction in cereal products has been one of the top health trends. During pasta-making, kansui (an alkaline salt with reduced sodium) was added at 0, 0.5, 1.0, 1.5, and 2.0% (total flour weight basis) to modify semolina gluten aggregation reactions in dough production and pasta cooking. Adding 1.0% kansui enhanced pasta dough elasticity and strength, but cooking quality was changed barely. These consequences may be attributed to more polymeric glutenin incorporated in the network through thiol (SH)/disulfide (SS) exchange or other non-redox reactions/interactions by introducing kansui, which was confirmed by SDS-PAGE, FTIR, and HPLC results. The protein cross-linking induced by kansui (1.0%) improved the texture properties of pasta without compromising the cooking and coloration characteristics. Considering the process convenience and food safety of reducing sodium chloride with natural alkaline salt reagent in industrial pasta production, this could be a potential approach for sodium reduction.

DOI: 10.1016/j.foodchem.2018.11.096
PMID: 30583414

65. Food Chem. 2019 Apr 25;278:545-551. doi: 10.1016/j.foodchem.2018.11.066. Epub 2018 Nov 13.

Inulin enrichment of gluten free breads: Interaction between inulin and yeast.

Morreale F(1), Benavent-Gil Y(2), Rosell CM(3).

Author information:
(1)Institute of Agrochemistry and Food Technology (IATA-CSIC), C/Agustin Escardino, 7, 46980 Paterna, Spain; Department of Food and Drug, Human Nutrition Unit, University of Parma, Viale delle Scienze 47/A, 43124 Parma, Italy.
(2)Institute of Agrochemistry and Food Technology (IATA-CSIC), C/Agustin Escardino, 7, 46980 Paterna, Spain. Electronic address: ybenavent@iata.csic.es.
(3)Institute of Agrochemistry and Food Technology (IATA-CSIC), C/Agustin Escardino, 7, 46980 Paterna, Spain. Electronic address: crosell@iata.csic.es.

Inulin can improve the nutritional quality of gluten free (GF) bread and have a prebiotic activity. However, breadmaking might frustrate the enrichments efforts due to inulin loss. In this study we aimed at studying the inulin enrichment of GF bread. Two different yeasts [having normal (Y1) or reduced (Y2) invertase activity] were used to leaven the breads enriched with five marketed inulins, which differed for the degree of polymerization (DP) and the manufacturer. Inulin replaced 10% of the rice flour and had low, intermediate or high DP, which ranged from 2 to 20; ≈20; ≥20, respectively. Fructan hydrolysis occurred during leavening of Y1-GF breads, reaching losses up to 40% after baking, depending on the diverse DP of the inulin-forming fructans. Inulin loss was less relevant in Y2-GF breads (up to 5% after baking) than Y1-GF breads. Crumb texture was not negatively influenced by inulin presence, even if this was high (e.g., Y2-GF breads). Information collected within this study may provide further insight to better optimize a GF bread formulation in view of inulin enrichment.

DOI: 10.1016/j.foodchem.2018.11.066
PMID: 30583409

66. EMBO J. 2019 Jan 15;38(2). pii: e101200. doi: 10.15252/embj.2018101200. Epub 2018 Dec 20.

CFTR is not a gluten lover either.

Vachel L(1), Muallem S(1).

Author information:
(1)Epithelial Signaling and Transport Section, National Institute of Dental and Craniofacial Research, National Institutes of Health, Bethesda, MD, USA.

DOI: 10.15252/embj.2018101200
PMCID: PMC6331715 [Available on 2020-01-15]
PMID: 30573671

67. J Food Sci. 2019 Jan;84(1):147-153. doi: 10.1111/1750-3841.14413. Epub 2018 Dec 19.

Effects of Whole and Malted Quinoa Flour Addition on Gluten-Free Muffins Quality.

Miranda-Villa PP(1)(2), Mufari JR(1)(2), Bergesse AE(2), Calandri EL(1)(2).

Author information:
(1)Inst. de Ciencia y Tecnología de los Alimentos Córdoba - ICyTAC, Consejo Nacional de Investigaciones Científicas y Técnicas - CONICET, Filloy S/N, Ciudad Univ., Córdoba, Argentina.
(2)Inst. de Ciencia y Tecnología de los Alimentos - ICTA, Facultad de Ciencias Exactas Físicas y Naturales, Univ. Nacional de Córdoba, Av. Vélez Sarsfield, 1611, Córdoba, Argentina.

Gluten-free flours based products present technological difficulties in their preparation, the texture is very different in comparison to products that contain gluten and their nutritional quality is often deficient due to the use of starches and refined flours, which provide high energy density and low nutritional value. The aim of this research was to assess the effects of addition both whole and malted quinoa flours on the physical, nutritional and sensory characteristics of gluten-free muffins. Different formulations were assessed: with 100% rice flour and with a 30% replacement for whole or malted quinoa flour. Proximate composition analysis, baking associated weight loss, size, specific volume, crumb structure, texture profile and consumer test sensory analysis were tested on the samples. Quinoa flours produced an increase of between 12% and 18% on protein, 8% to 18% on minerals and 22% to 25% on amino acids, in comparison to samples that contained only rice flour (used as reference). Technological and sensory improvements on the quality of assessed muffins were also associated to quinoa flours addition. 24 hr-malted quinoa flour added muffins had moisture, height, volume and firmness that were close to the reference ones. On all samples, small cells (0.002 to 0.005 cm2) were predominant on crumb structure and sensory evaluation resulted on similar outcomes for color and texture. However, the formula with 24 hours-malted quinoa flour had the best scored on taste and smell. PRACTICAL APPLICATIONS: Adding whole or malted quinoa flours to formulations of gluten-free products improves their nutritional and technological characteristics. These new products not only widen food variety for people with celiac disease but also increase the added value of quinoa grains, which motivates its production and industrialization.

DOI: 10.1111/1750-3841.14413
PMID: 30569476

68. Seizure. 2019 Jan;64:59-64. doi: 10.1016/j.seizure.2018.11.012. Epub 2018 Dec 5.

Seizures as a clinical manifestation in somatic autoimmune disorders.

Amanat M(1), Thijs RD(2), Salehi M(1), Sander JW(3).

Author information:
(1)Faculty of Medicine, Students' Scientific Research Center, Tehran University of Medical Sciences, Tehran, Iran.
(2)Department of Neurology, Leiden University Medical Center (LUMC), PO Box 9600, 2300RC, Leiden, Netherlands; Stichting Epilepsie Instellingen Nederland (SEIN), Achterweg 5, Heemstede, 2103SW, Netherlands; NIHR University College London Hospitals Biomedical Research Centre, UCL Queen Square Institute of Neurology,

London, WC1N 3BG, United Kingdom. Electronic address: rthijs@sein.nl.
(3)Stichting Epilepsie Instellingen Nederland (SEIN), Achterweg 5, Heemstede, 2103SW, Netherlands; NIHR University College London Hospitals Biomedical Research Centre, UCL Queen Square Institute of Neurology, London, WC1N 3BG, United Kingdom; Chalfont Centre for Epilepsy, Chalfont St Peter, Bucks, SL9 0RJ, United Kingdom.

The risk of epileptic seizures seems increased in several systemic autoimmune disorders including systemic lupus erythematosus, type 1 diabetes mellitus, myasthenia gravis, celiac disease, rheumatoid arthritis, Hashimoto's encephalopathy, psoriasis, multiple sclerosis, neuromyelitis optica, and bullous pemphigoid. Immune dysfunction may be partly responsible for this association. Elevated levels of pro-inflammatory cytokines, autoantibodies seen in these autoimmune disorders and antibodies against neuronal antigens may contribute to the etiopathogenesis of seizures and epilepsy associated to immune conditions. Other unknown factors, the effect of different co-morbid conditions of epilepsy as well as shared risk factors such as common etiological factors, environmental triggers, or a common genetic predisposition may also explain the association. We review different autoimmune disorders which may present with co-morbid seizures and discuss possible underlying mechanisms of this co-occurrence focusing on a potential role of immune system dysfunction.

DOI: 10.1016/j.seizure.2018.11.012
PMID: 30562654

69. eNeurologicalSci. 2018 Nov 27;14:31-33. doi: 10.1016/j.ensci.2018.11.021. eCollection 2019 Mar.

Simple schwannomatosis or an incomplete Coffin-Siris? Report of a particular case.

Bellantoni G(1), Guerrini F(1), Del Maestro M(1), Galzio R(1), Luzzi S(1)(2).

Author information:
(1)Unit of Neurosurgery, Department of Clinical Surgical Diagnostic and Pediatric Sciences, University of Pavia, Italy.
(2)Department of Emergency and Organ Transplantation, University "Aldo Moro", Bari, Italy.

Background: Schwannomatosis is a genetic disorder that belongs to NF family. The mutation of SMARCB1 gene has been related to this entity and Coffin-Siris syndrome, as well. We reported a case of a female patient with SMARCB1 mutation who has developed a spontaneuous spleen rupture.
Case description: A 28 years old female patient with a story of a Sjogren syndrome, celiac disease and a surgically treated schwannoma, presented to our observation in July 2013 for a pain on the left elbow, where a tumefation was present. After neuroradiological evaluations, a surgical resection was performed and a schwannoma was diagnosed. Genetic exams revealed a puntiform SMARCB1 gene mutation. During 2015, she was subdued to the removal of an another schwannoma located into the cervical medullary canal. Few months later, she was operated in an another hospital for a spontaneous spleen rupture in a possible context of wandering spleen.
Conclusion: We think that the patient could suffer from a partially expressed

Coffin-Siris syndrome. No cases of spontaneous rupture in a context of wandering spleen have been ever described as for as schwannomatosis or Coffin-Siris syndrome are concerned. More cases are necessary to establish a direct relationship.

DOI: 10.1016/j.ensci.2018.11.021
PMCID: PMC6277249
PMID: 30555950

70. Aliment Pharmacol Ther. 2019 Jan;49(1):120. doi: 10.1111/apt.15055.

Letter: the relationship between diet, mood and mucosal healing in coeliac disease remains to be verified-authors' reply.

Ludvigsson JF(1), Emilsson L(2).

Author information:
(1)Karolinska institutet, Örebro University Hospital, Stockholm, Sweden.
(2)Harvard School of Public Health, Oslo University & Värmland County, Oslo, Norway.

DOI: 10.1111/apt.15055
PMID: 30548318

71. Aliment Pharmacol Ther. 2019 Jan;49(1):119-120. doi: 10.1111/apt.15041.

Letter: the relationship between diet, mood and mucosal healing in coeliac disease remains to be verified.

Zeng J(1), Gan HT(1)(2).

Author information:
(1)Department of Gastroenterology, West China Hospital, Sichuan University, Chengdu, China.
(2)The Center of Gerontology and Geriatrics, West China Hospital, Sichuan University, Chengdu, China.

DOI: 10.1111/apt.15041
PMID: 30548315

72. Comput Biol Med. 2019 Jan;104:352-353. doi: 10.1016/j.compbiomed.2018.12.003. Epub 2018 Dec 3.

Celiac disease and small-bowel enteropathy - Seeing beyond the haze, the mist and the fog.

Marlicz W(1), Koulaouzidis A(2).

Author information:
(1)Department of Gastroenterology, Pomeranian Medical University, Szczecin, Poland. Electronic address: marlicz@hotmail.com.
(2)Endoscopy Unit, The Royal Infirmary of Edinburgh, Edinburgh, Scotland, UK.

DOI: 10.1016/j.compbiomed.2018.12.003

PMID: 30545571

73. Methods Mol Biol. 2019;1901:197-203. doi: 10.1007/978-1-4939-8949-2_16.

Determination of Autoantibodies to Transglutaminase by Electrochemiluminescence (ECL) Assay.

Zhao Z(1)(2), Gu Y(1)(3), Miao D(1), Hoffmeyer E(1), Liu Y(2), Yu L(4).

Author information:
(1)Barbara Davis Center for Childhood Diabetes, University of Colorado, Aurora, CO, USA.
(2)Department of Endocrinology, The Second Hospital of Jilin University, Jilin, China.
(3)Department of Endocrinology, First Affiliated Hospital of Nanjing Medical University, Nanjing, Jiangsu, China.
(4)Barbara Davis Center for Childhood Diabetes, University of Colorado, Aurora, CO, USA. Liping.yu@ucdenver.edu.

Appearance of autoantibodies to tissue transglutaminase (TGA) is the most reliable biomarker to identify celiac disease autoimmunity. A nonradioactive assay of determination of TGA was newly developed using electrochemiluminescence (ECL) technology. This ECL assay has been demonstrated to be more sensitive than current standard radio-binding assay (RBA) in detecting TGA and can detect TGA earlier among high-risk young children followed from birth.

DOI: 10.1007/978-1-4939-8949-2_16
PMID: 30539579

74. Nat Microbiol. 2019 Feb;4(2):293-305. doi: 10.1038/s41564-018-0306-4. Epub 2018 Dec 10.

Gut microbiome structure and metabolic activity in inflammatory bowel disease.

Franzosa EA(1)(2), Sirota-Madi A(1), Avila-Pacheco J(1), Fornelos N(1), Haiser HJ(3), Reinker S(3), Vatanen T(1), Hall AB(1), Mallick H(1)(2), McIver LJ(1)(2), Sauk JS(4), Wilson RG(4), Stevens BW(4), Scott JM(1), Pierce K(1), Deik AA(1), Bullock K(1), Imhann F(5)(6), Porter JA(7), Zhernakova A(6), Fu J(6)(8), Weersma RK(5), Wijmenga C(6)(9), Clish CB(1), Vlamakis H(1), Huttenhower C(10)(11), Xavier RJ(12)(13)(14).

Author information:
(1)Broad Institute of MIT and Harvard, Cambridge, MA, USA.
(2)Department of Biostatistics, Harvard School of Public Health, Boston, MA, USA.
(3)Novartis Institute for Biomedical Research Inc., Cambridge, MA, USA.
(4)Gastrointestinal Unit and Center for the Study of Inflammatory Bowel Disease, Massachusetts General Hospital and Harvard Medical School, Boston, MA, USA.
(5)Department of Gastroenterology and Hepatology, University of Groningen and University Medical Center Groningen, Groningen, The Netherlands.
(6)Department of Genetics, University of Groningen and University Medical Center Groningen, Groningen, The Netherlands.
(7)Novartis Institute for Biomedical Research Inc., Basel, Switzerland.
(8)Department of Pediatrics, University of Groningen and University Medical Center Groningen, Groningen, The Netherlands.
(9)Department of Immunology, K.G. Jebsen Coeliac Disease Research Centre,

University of Oslo, Oslo, Norway.
(10)Broad Institute of MIT and Harvard, Cambridge, MA, USA. chuttenh@hsph.harvard.edu.
(11)Department of Biostatistics, Harvard School of Public Health, Boston, MA, USA. chuttenh@hsph.harvard.edu.
(12)Broad Institute of MIT and Harvard, Cambridge, MA, USA. xavier@molbio.mgh.harvard.edu.
(13)Gastrointestinal Unit and Center for the Study of Inflammatory Bowel Disease, Massachusetts General Hospital and Harvard Medical School, Boston, MA, USA. xavier@molbio.mgh.harvard.edu.
(14)Center for Microbiome Informatics and Therapeutics, Massachusetts Institute of Technology, Cambridge, MA, USA. xavier@molbio.mgh.harvard.edu.

The inflammatory bowel diseases (IBDs), which include Crohn's disease (CD) and ulcerative colitis (UC), are multifactorial chronic conditions of the gastrointestinal tract. While IBD has been associated with dramatic changes in the gut microbiota, changes in the gut metabolome-the molecular interface between host and microbiota-are less well understood. To address this gap, we performed untargeted metabolomic and shotgun metagenomic profiling of cross-sectional stool samples from discovery (n = 155) and validation (n = 65) cohorts of CD, UC and non-IBD control patients. Metabolomic and metagenomic profiles were broadly correlated with faecal calprotectin levels (a measure of gut inflammation). Across >8,000 measured metabolite features, we identified chemicals and chemical classes that were differentially abundant in IBD, including enrichments for sphingolipids and bile acids, and depletions for triacylglycerols and tetrapyrroles. While > 50% of differentially abundant metabolite features were uncharacterized, many could be assigned putative roles through metabolomic 'guilt by association' (covariation with known metabolites). Differentially abundant species and functions from the metagenomic profiles reflected adaptation to oxidative stress in the IBD gut, and were individually consistent with previous findings. Integrating these data, however, we identified 122 robust associations between differentially abundant species and well-characterized differentially abundant metabolites, indicating possible mechanistic relationships that are perturbed in IBD. Finally, we found that metabolome- and metagenome-based classifiers of IBD status were highly accurate and, like the vast majority of individual trends, generalized well to the independent validation cohort. Our findings thus provide an improved understanding of perturbations of the microbiome-metabolome interface in IBD, including identification of many potential diagnostic and therapeutic targets.

DOI: 10.1038/s41564-018-0306-4
PMCID: PMC6342642 [Available on 2019-06-10]
PMID: 30531976

75. Eur J Endocrinol. 2019 Feb 1;180(2):135-144. doi: 10.1530/EJE-18-0515.

Associated auto-immune disease in type 1 diabetes patients: a systematic review and meta-analysis.

Nederstigt C(1)(2), Uitbeijerse BS(3), Janssen LGM(1), Corssmit EPM(1), de Koning EJP(1)(3), Dekkers OM(1)(2)(4).

Author information:
(1)Department of Internal Medicine, Section Endocrinology & Metabolism.
(2)Department of Clinical Epidemiology, Leiden University Medical Center, Leiden, The Netherlands.

(3)Department of Nephrology, Leiden University Medical Center, Leiden, The Netherlands.
(4)Department of Clinical Epidemiology, Aarhus University Hospital, Aarhus, Denmark.

Introduction The association between type 1 diabetes (T1D) and other auto-immune diseases is well known. However, a quantitative overview of all associated auto-immune diseases and their prevalence in T1D is lacking. Methods We searched PubMed, Web of Science, EMBASE and Cochrane library in September 2018 to identify relevant articles about the prevalence of the following associated auto-immune diseases in T1D cohorts: auto-immune thyroid disease, celiac disease, gastric autoimmunity including pernicious anemia, vitiligo and adrenal gland insufficiency. A meta-analysis was performed to estimate pooled prevalence using a random-effects model. Furthermore, random-effects meta-regression analysis was performed to assess the association between prevalence and mean age or diabetes duration. Results One hundred eighty articles were eligible including a total of 293 889 type 1 diabetes patients. Hypothyroidism (65 studies) was prevalent in 9.8% (95% CI: 7.5-12.3) of patients. Meta-regression showed that for every 10-year age increase, hypothyroidism prevalence increased 4.6% (95% CI: 2.6-6.6, P < 0.000, 54 studies). Weighted prevalence of celiac disease was 4.5% (95% CI: 4.0-5.5, 87 studies). Gastric autoimmunity was found in 4.3% of patients (95% CI: 1.6-8.2, 8 studies) and vitiligo in 2.4% (95% CI: 1.2-3.9, 14 studies) of patients. The prevalence of adrenal insufficiency was 0.2% (95% CI: 0.0-0.4, 14 studies) and hyperthyroidism was found in 1.3 percent (95% CI: 0.9-1.8, 45 studies) of type 1 diabetes patients. For all analyses, statistical heterogeneity between studies was moderate to high. Conclusions The prevalence of antibody-mediated auto-immune disease is high among type 1 diabetes patients. Especially hypothyroidism and celiac disease are frequently found.

DOI: 10.1530/EJE-18-0515
PMID: 30508413 [Indexed for MEDLINE]

76. Food Chem. 2019 Mar 30;277:664-673. doi: 10.1016/j.foodchem.2018.11.015. Epub 2018 Nov 2.

Relation between structural, mechanical and sensory properties of gluten-free bread as affected by modified dietary fibers.

Kiumarsi M(1), Shahbazi M(2), Yeganehzad S(3), Majchrzak D(4), Lieleg O(5), Winkeljann B(5).

Author information:
(1)Research Institute of Food Science and Technology (RIFST), PO Box 91735-147, Mashhad, Iran; University of Vienna, Department of Nutritional Sciences, Faculty of Life Sciences, Althanstraβe 14, A-1090 Vienna, Austria.
(2)Independence scholar, Lorenz-Müller Gasse 1, Brigittenau,1200 Vienna, Austria. Electronic address: shahbazim00@yahoo.com.
(3)Research Institute of Food Science and Technology (RIFST), PO Box 91735-147, Mashhad, Iran.
(4)University of Vienna, Department of Nutritional Sciences, Faculty of Life Sciences, Althanstraβe 14, A-1090 Vienna, Austria.
(5)Department of Mechanical Engineering, Munich School of Bioengineering, Technical University of Munich, Boltzmannstraße 11, 85748 Garching, Germany.

Gluten-free bread was fortified with modified dietary fibers (wheat bran, resistant starch and inulin) and their effects on water mobility, friction

coefficient, thermal behavior, crystalline pattern and textural properties were evaluated. Moreover, time-intensity evaluation was used to study temporal dynamics of sensory attributes of fortified-breads. Dietary fibers increased gelatinization temperature while decreasing gelatinization enthalpy, more notably when inulin was used. X-ray diffraction patterns of bread showed the appearance of new peaks after addition of resistant starch and wheat bran, coinciding with an increase in crumb hardness. In contrast, inulin considerably decreased starch crystallinity in the bread, resulting in a softer crumb. Faster decay and shifting of protons to shorter times were found with incorporation of dietary fibers. Friction coefficient determined by tribology measurement was higher in the breads containing resistant starch and wheat bran compared to other samples. Pearson's correlation analysis indicated the sensory attributes of firmness, chewiness and dryness were positively correlated with instrumental findings. Time-intensity evaluation revealed inulin-fortified bread had the lowest firmness and chewiness with less dryness, whereas resistant starch-fortified bread showed the highest intensity of these descriptors.

DOI: 10.1016/j.foodchem.2018.11.015
PMID: 30502201 [Indexed for MEDLINE]

77. Food Chem. 2019 Mar 30;277:655-663. doi: 10.1016/j.foodchem.2018.11.004. Epub 2018 Nov 2.

Effect of acid deamidation-alcalase hydrolysis induced modification on functional and bitter-masking properties of wheat gluten hydrolysates.

He W(1), Yang R(2), Zhao W(3).

Author information:
(1)State Key Laboratory of Food Science and Technology, School of Food Science and Technology, Jiangnan University, 1800 Lihu Road, Wuxi, Jiangsu 214122, PR China; National Engineering Research Center for Functional Food, Jiangnan University, 1800 Lihu Road, Wuxi, Jiangsu 214122, PR China; Collaborative Innovation Center of Food Safety and Quality Control in Jiangsu Province, Jiangnan University, 1800 Lihu Road, Wuxi, Jiangsu 214122, PR China. Electronic address: alisahwm@link.cuhk.edu.hk.
(2)State Key Laboratory of Food Science and Technology, School of Food Science and Technology, Jiangnan University, 1800 Lihu Road, Wuxi, Jiangsu 214122, PR China; National Engineering Research Center for Functional Food, Jiangnan University, 1800 Lihu Road, Wuxi, Jiangsu 214122, PR China; Collaborative Innovation Center of Food Safety and Quality Control in Jiangsu Province, Jiangnan University, 1800 Lihu Road, Wuxi, Jiangsu 214122, PR China. Electronic address: yrj@jiangnan.edu.cn.
(3)State Key Laboratory of Food Science and Technology, School of Food Science and Technology, Jiangnan University, 1800 Lihu Road, Wuxi, Jiangsu 214122, PR China; National Engineering Research Center for Functional Food, Jiangnan University, 1800 Lihu Road, Wuxi, Jiangsu 214122, PR China; Collaborative Innovation Center of Food Safety and Quality Control in Jiangsu Province, Jiangnan University, 1800 Lihu Road, Wuxi, Jiangsu 214122, PR China. Electronic address: zhaow@jiangnan.edu.cn.

The low solubility of wheat gluten (WG) considerably limits its application. Owing to its high hydrolytic efficiency, alcalase was the protease selected for the enzymatic hydrolysis of WG. The functional properties of WG hydrolysate

prepared by alcalase (AHWG) with a hydrolysis degree (DH) of 10% were better than those with DH 5% and DH 15%. The application of AHWG was hindered by its bitterness. To mask the bitterness of AHWG, WG was respectively deamidated with acetic acid, tartaric acid, and citric acid, followed by being hydrolyzed by alcalase to DH 10%. The citric acid deamidation-alcalase hydrolysis WG hydrolysate (CDAH) exhibited the best functional properties. Partial least squares regression analysis results indicated that CDAH exhibited an enhanced bitter-masking property attributable to a high content of umami taste amino acids (glutamic acid and aspartic acid). Thus, CDAH showed the greatest potential as a modified WG product to expand the application of WG.

DOI: 10.1016/j.foodchem.2018.11.004
PMID: 30502200 [Indexed for MEDLINE]

78. Food Chem. 2019 Mar 30;277:135-144. doi: 10.1016/j.foodchem.2018.10.071. Epub 2018 Oct 13.

Nitrogen topdressing timing modifies the gluten quality and grain hardness related protein levels as revealed by iTRAQ.

Zhong Y(1), Wang W(2), Huang X(3), Liu M(4), Hebelstrup KH(5), Yang D(6), Cai J(7), Wang X(8), Zhou Q(9), Cao W(10), Dai T(11), Jiang D(12).

Author information:
(1)National Technique Innovation Center for Regional Wheat Production/Key Laboratory of Crop Physiology and Ecology in Southern China, Ministry of Agriculture/National Engineering and Technology Center for Information Agriculture, Nanjing Agricultural University, PR China; Department of Molecular Biology and Genetics, Section of Crop Genetics and Biotechnology, Aarhus University, Denmark. Electronic address: yingxinzhong@mbg.au.dk.
(2)National Technique Innovation Center for Regional Wheat Production/Key Laboratory of Crop Physiology and Ecology in Southern China, Ministry of Agriculture/National Engineering and Technology Center for Information Agriculture, Nanjing Agricultural University, PR China. Electronic address: 2015201012@njau.edu.cn.
(3)National Technique Innovation Center for Regional Wheat Production/Key Laboratory of Crop Physiology and Ecology in Southern China, Ministry of Agriculture/National Engineering and Technology Center for Information Agriculture, Nanjing Agricultural University, PR China. Electronic address: 2015101005@njau.edu.cn.
(4)National Laboratory of Plant Genetics and Germplasm Enhancement, Nanjing Agricultural University, PR China. Electronic address: 2014201021@njau.edu.cn.
(5)Department of Molecular Biology and Genetics, Section of Crop Genetics and Biotechnology, Aarhus University, Denmark. Electronic address: kim.hebelstrup@mbg.au.dk.
(6)National Laboratory of Plant Genetics and Germplasm Enhancement, Nanjing Agricultural University, PR China. Electronic address: dlyang@njau.edu.cn.
(7)National Technique Innovation Center for Regional Wheat Production/Key Laboratory of Crop Physiology and Ecology in Southern China, Ministry of Agriculture/National Engineering and Technology Center for Information Agriculture, Nanjing Agricultural University, PR China. Electronic address: caijian@njau.edu.cn.
(8)National Technique Innovation Center for Regional Wheat Production/Key Laboratory of Crop Physiology and Ecology in Southern China, Ministry of

Agriculture/National Engineering and Technology Center for Information Agriculture, Nanjing Agricultural University, PR China. Electronic address: xiaowang@njau.edu.cn.
(9)National Technique Innovation Center for Regional Wheat Production/Key Laboratory of Crop Physiology and Ecology in Southern China, Ministry of Agriculture/National Engineering and Technology Center for Information Agriculture, Nanjing Agricultural University, PR China. Electronic address: qinzhou@njau.edu.cn.
(10)National Technique Innovation Center for Regional Wheat Production/Key Laboratory of Crop Physiology and Ecology in Southern China, Ministry of Agriculture/National Engineering and Technology Center for Information Agriculture, Nanjing Agricultural University, PR China. Electronic address: caow@njau.edu.cn.
(11)National Technique Innovation Center for Regional Wheat Production/Key Laboratory of Crop Physiology and Ecology in Southern China, Ministry of Agriculture/National Engineering and Technology Center for Information Agriculture, Nanjing Agricultural University, PR China. Electronic address: tingbod@njau.edu.cn.
(12)National Technique Innovation Center for Regional Wheat Production/Key Laboratory of Crop Physiology and Ecology in Southern China, Ministry of Agriculture/National Engineering and Technology Center for Information Agriculture, Nanjing Agricultural University, PR China. Electronic address: jiangd@njau.edu.cn.

Nitrogen fertilization regimes significantly affect both grain quality and yield. Wheat plants were subjected to different application timing of topdressed nitrogen at the emergence of the top fifth (TL5), top third (TL3) and top first leaf (TL1), respectively. The iTRAQ (isobaric tag for relative and absolute quantitation) technology was adopted to obtain the complete proteome of wheat flour and to identify the differentially expressed proteins (DEPs) as regulated by nitrogen topdressing timing. Collectively, 591 proteins into 17 functional categories in flour of mature grains were identified. In comparison to TL3, 50 and 63 DEPs were identified in TL5 and TL1, respectively. Nine of the DEPs commonly dependent on nitrogen topdressing timing are the γ-gliadins or high-molecular-weight glutenin subunits. Additionally, delaying nitrogen topdressing modified the grain hardness and allergic protein content. The results suggested that altering nitrogen topdressing timing is a potential strategy for pursuing targeted processing quality of wheat flour.

DOI: 10.1016/j.foodchem.2018.10.071
PMID: 30502129 [Indexed for MEDLINE]

79. Biotechnol Bioeng. 2019 Feb;116(2):444-451. doi: 10.1002/bit.26856. Epub 2018 Dec 5.

Recent advances in biosensors for diagnosis of celiac disease: A review.

Gupta S(1), Kaushal A(1)(2), Kumar A(2), Kumar D(1).

Author information:
(1)Faculty of Applied Sciences and Biotechnology, Shoolini University, Solan, India.
(2)Department of Molecular Biosensor lab, CSIR-Institute of Genomics and Integrative Biology, Delhi, India.

Celiac disease (CD) is an intestinal issue activated by the inappropriate immune reaction towards gluten protein of wheat, rye, barley, oats, and autoantigen, tissue transglutaminase. Regardless of the accessibility of immunochemical conventions for research facility analysis of CD, there is as yet a need of speedier, less expensive, and simpler devices for diagnosing CD. This review concentrates on progresses in biosensors for diagnosing CD in perspective of the scaled down hardware, multianalyte discovery and low sample volume necessity. Various recently developed biosensors in this field are presented.

DOI: 10.1002/bit.26856
PMID: 30516838

80. Comput Biol Med. 2019 Jan;104:183-196. doi: 10.1016/j.compbiomed.2018.10.036. Epub 2018 Nov 3.

Equations defined using gene expression and histological data resolve coeliac disease biopsies within the Marsh score continuum.

Charlesworth RPG(1), Agnew LL(2), Scott DR(3), Andronicos NM(2).

Author information:
(1)Discipline of Biomedical Sciences, School of Science and Technology, University of New England, Armidale, NSW, 2351, Australia. Electronic address: rcharle3@une.edu.au.
(2)Discipline of Biomedical Sciences, School of Science and Technology, University of New England, Armidale, NSW, 2351, Australia.
(3)Gastroenterologist, Hunter New England Area Health Service, Tamworth, NSW, 2340, Australia.

BACKGROUND/AIM: The gold standard diagnostic for coeliac disease (CD) is subjective histological assignment of biopsies into the Marsh score categories. It is hypothesized that discrete Marsh score categories can be quantitatively resolved into a continuum using discriminant equations defined using histological and gene expression data. Therefore, the aim of this study was to use a combination of histological and gene expression data to develop equations that classify CD patient biopsies into a quantitative Marsh score continuum which could be used by clinicians to monitor CD treatment efficacy.
METHODS: Both empirical and simulated gene expression and histological data were used to define predictive Marsh score equations. The distances of treated sample biopsies from the Marsh score standards were determined using the Mahalanobis distance calculation.
RESULTS: Three function, high resolution discriminant equations derived from simulated data were used to accurately classify 99.6% of simulated and empirically derived biopsy data. The first function resolved active (Marsh type 3) CD from mild (Marsh type 1) CD. The second function resolved normal (no specific pathology) biopsies from mild CD. The third function resolved active Marsh score 3 into a and b subcategories. Finally, measuring the Mahalanobis distance enabled the conversion of discrete Marsh score categories into a continuum.
CONCLUSIONS: This proof-of-concept study successfully demonstrated that the discrete Marsh score scale can be converted into a quantitative continuum capable of high resolution monitoring of patient treatment efficacy using equations defined by gene expression and histology data.

DOI: 10.1016/j.compbiomed.2018.10.036
PMID: 30500563

81. EMBO J. 2019 Jan 15;38(2). pii: e100101. doi: 10.15252/embj.2018100101. Epub 2018 Nov 29.

A pathogenic role for cystic fibrosis transmembrane conductance regulator in celiac disease.

Villella VR(1), Venerando A(2), Cozza G(3), Esposito S(1), Ferrari E(1)(4), Monzani R(1)(4), Spinella MC(1)(4), Oikonomou V(5), Renga G(5), Tosco A(6), Rossin F(7), Guido S(8), Silano M(9), Garaci E(10), Chao YK(11), Grimm C(11), Luciani A(12), Romani L(4), Piacentini M(7)(13), Raia V(6), Kroemer G(14)(15)(16)(17)(18)(19), Maiuri L(20)(4).

Author information:
(1)European Institute for Research in Cystic Fibrosis, San Raffaele Scientific Institute, Milan, Italy.
(2)Department of Comparative Biomedicine and Food Science, University of Padova, Padova, Italy.
(3)Department of Molecular Medicine, University of Padova, Padova, Italy.
(4)Department of Health Sciences, University of Eastern Piedmont, Novara, Italy.
(5)Department of Experimental Medicine, University of Perugia, Perugia, Italy.
(6)Pediatric Unit, Department of Translational Medical Sciences, Regional Cystic Fibrosis Center, Federico II University Naples, Naples, Italy.
(7)Department of Biology, University of Rome "Tor Vergata", Rome, Italy.
(8)Department of Chemical, Materials and Production Engineering, Federico II University Naples, Naples, Italy.
(9)Department of Food Safety, Nutrition and Veterinary Public Health, Istituto Superiore di Sanità, Roma, Italy.
(10)University San Raffaele and 21 IRCCS San Raffaele, Rome, Italy.
(11)Department of Pharmacology and Toxicology, Faculty of Medicine, University of Munich (LMU), Munich, Germany.
(12)Institute of Physiology CH, University of Zurich, Zurich, Switzerland.
(13)National Institute for Infectious Diseases IRCCS "L. Spallanzani", Rome, Italy.
(14)Centre de Recherche des Cordeliers, Equipe11 labellisée Ligue Nationale Contrele Cancer, Paris, France kroemer@orange.fr luigi.maiuri@gmail.com.
(15)Centre de Recherche des Cordeliers, INSERM U1138, Paris, France.
(16)Université Paris Descartes, Paris, France.
(17)Metabolomics and Cell Biology Platforms, Institut Gustave Roussy, Villejuif, France.
(18)Pôle de Biologie, Hôpital Européen Georges Pompidou, AP-HP, Paris, France.
(19)Department of Women's and Children's Health, Karolinska Institute, Karolinska University Hospital, Stockholm, Sweden.
(20)European Institute for Research in Cystic Fibrosis, San Raffaele Scientific Institute, Milan, Italy kroemer@orange.fr luigi.maiuri@gmail.com.

Intestinal handling of dietary proteins usually prevents local inflammatory and immune responses and promotes oral tolerance. However, in ~ 1% of the world population, gluten proteins from wheat and related cereals trigger an HLA DQ2/8-restricted TH1 immune and antibody response leading to celiac disease. Prior epithelial stress and innate immune activation are essential for breaking

oral tolerance to the gluten component gliadin. How gliadin subverts host intestinal mucosal defenses remains elusive. Here, we show that the α-gliadin-derived LGQQQPFPPQQPY peptide (P31-43) inhibits the function of cystic fibrosis transmembrane conductance regulator (CFTR), an anion channel pivotal for epithelial adaptation to cell-autonomous or environmental stress. P31-43 binds to, and reduces ATPase activity of, the nucleotide-binding domain-1 (NBD1) of CFTR, thus impairing CFTR function. This generates epithelial stress, tissue transglutaminase and inflammasome activation, NF-κB nuclear translocation and IL-15 production, that all can be prevented by potentiators of CFTR channel gating. The CFTR potentiator VX-770 attenuates gliadin-induced inflammation and promotes a tolerogenic response in gluten-sensitive mice and cells from celiac patients. Our results unveil a primordial role for CFTR as a central hub orchestrating gliadin activities and identify a novel therapeutic option for celiac disease.

DOI: 10.15252/embj.2018100101
PMCID: PMC6331719
PMID: 30498130

82. Nucl Med Commun. 2019 Feb;40(2):175-184. doi: 10.1097/MNM.0000000000000944.

Celiac ganglia: can they be misinterpreted on multimodal 68Ga-PSMA-11 PET/MR?

Bialek EJ(1)(2)(3), Malkowski B(1)(4).

Author information:
(1)Department of Nuclear Medicine, The Franciszek Lukaszczyk Oncology Centre.
(2)Department of Nuclear Medicine, Military Institute of Medicine.
(3)Department of Diagnostic Ultrasound, Masovian Bródnowski Hospital, Warsaw, Poland.
(4)Department of Positron Emission Tomography and Molecular Diagnostics, Collegium Medicum of Nicolaus Copernicus University, Bydgoszcz.

OBJECTIVE: The objective of this study was to investigate the morphologic features and Ga-prostate-specific membrane antigen (PSMA)-11 avidity of celiac ganglia (CG) on multimodal PET/MRI.
MATERIALS AND METHODS: Ga-PSMA-11 whole-body PET/MR examinations in 120 patients, referred for staging or follow-up of prostate cancer, were retrospectively reviewed to investigate the radiotracer uptake [maximum standardized uptake value (SUVmax)] and morphologic features (size, shape, location) of CG. Nodular, oval and longitudinal nodular, thick or with oval parts shapes of CG were regarded as mistakable with lymph nodes, whereas linear and longitudinal shapes were considered as not mistakable.
RESULTS: On MR scans, CG were visible in 98% (117/120) on both sides and in two patients only on the left side. Mistakable CG shape was detected in 69% (83/120) of patients on both or at least one side. The left CG were thicker (4±1.4 mm; range: 1.5-7.5 mm) than the right ones (3±1.3 mm; range: 0.5-7 mm). Mean SUVmax was 2.51±1.17 (range: 0.02-5.48) in the left CG and 2.23±1.22 (range: 0.02-5.91) in the right CG. Increased Ga-PSMA-11 uptake, SUVmax at least 2, was detected in 75% (90/120), and both - erroneous shape and elevated Ga-PSMA-ligand uptake - was observed in 55% (66/120) of all patients on both sides or at least one side.
CONCLUSION: Frequently observed, the nodular, oval and longitudinal (nodular, thick or with oval parts) shape of CG, especially of the thicker left CG, on MR scans may cause mistaking them for lymph nodes, even abnormal or metastatic. On

whole-body PET/MRI, evident and sometimes high Ga-PSMA-11 uptake in CG increases the risk of a misinterpretation of them as metastases.

DOI: 10.1097/MNM.0000000000000944
PMID: 30480555

83. Am J Cardiol. 2019 Jan 15;123(2):249-253. doi: 10.1016/j.amjcard.2018.10.012. Epub 2018 Oct 30.

Conditions and Factors Associated With Spontaneous Coronary Artery Dissection (from a National Population-Based Cohort Study).

Krittanawong C(1), Kumar A(2), Johnson KW(3), Luo Y(1), Yue B(1), Wang Z(4), Bhatt DL(5).

Author information:
(1)Department of Internal Medicine, Icahn School of Medicine at Mount Sinai St' Luke and Mount Sinai West Hospitals, New York, New York.
(2)Heart and Vascular Institute, Cleveland Clinic, Ohio.
(3)Institute for Next Generation Healthcare, Department of Genetics and Genomic Sciences, Icahn School of Medicine at Mount Sinai, New York, New York.
(4)Robert D. and Patricia E. Kern Center for the Science of Health Care Delivery, Mayo Clinic, Rochester, Minnesota; Division of Health Care Policy and Research, Department of Health Sciences Research, Mayo Clinic, Rochester, Minnesota.
(5)Brigham and Women's Hospital Heart & Vascular Center, Harvard Medical School, Boston, Massachusetts. Electronic address: dlbhattmd@post.harvard.edu.

The pathophysiology of spontaneous coronary artery dissection (SCAD) is heterogeneous, associated with systemic arteriopathies and inflammatory diseases, and often compounded by environmental precipitants, genetics, or stressors. However, the frequency of these associated conditions with SCAD on a population level remains unknown. Therefore, the objective of this analysis was to evaluate heterogeneous phenotypes of SCAD in the United States using data from the Nationwide Inpatient Sample collected from January 1, 2004, to September 31, 2015. Among 66,360 patients diagnosed with SCAD, the mean age was 63.1 ± 13.2 years and 44.2% were women. A total of 3,415 (5.14%) had depression, 670 (1.0%) had rheumatoid arthritis, 640 (0.96%) had anxiety, 545 (0.82%) had a migraine disorder, 440 (0.66%) used steroids, 385 (0.58%) had malignant hypertension, 280 (0.42%) had systemic lupus erythematosus, 250 (0.38%) had cocaine abuse, 215 (0.32%) had hypertensive heart or renal disease, 130 (0.19%) had coronary spasm, 105 (0.16%) had fibromuscular dysplasia, 85 (0.13%) had Crohn's disease, 75 (0.11%) had celiac disease, 60 (0.09%) had adult autosomal dominant polycystic kidney disease, 60 (0.09%) had hormone replacement therapy, 55 (0.08%) had sarcoidosis, 55 (0.08%) had amphetamine abuse, 15 (0.02%) had granulomatosis polyangiitis, 10 (0.02%) had α1-antitrypsin deficiency, 10 (0.02%) had Marfan syndrome, 10 (0.02%) had Ehlers-Danlos syndrome, 10 (0.02%) had Kawasaki disease, 10 (0.02%) had polyarteritis nodosa, and 5 (0.01%) had multiparity. In conclusion, most cases of SCAD had no apparent concomitant arteriopathy, inflammatory disorder, or evident risk factor.

DOI: 10.1016/j.amjcard.2018.10.012
PMID: 30477805

84. J Pharmacol Toxicol Methods. 2019 Jan - Feb;95:27-35. doi: 10.1016/j.vascn.2018.11.008. Epub 2018 Nov 23.

A novel experimental intraperitoneal infection model for Haemophilus parasuis in neutropenic guinea pigs.

Zhao YD(1), Liu BT(2), Guo LL(3), Shan H(4), Fang BH(5).

Author information:
(1)College of Veterinary Medicine, Qingdao Agricultural University, Qingdao 266109, China; National Risk Assessment Laboratory for Antimicrobial Resistance of Microorganisms in Animals, College of Veterinary Medicine, South China Agricultural University, Guangzhou 510642, China.
(2)College of Veterinary Medicine, Qingdao Agricultural University, Qingdao 266109, China.
(3)Qingdao Yebio Biological Engineering Co., Ltd., Qingdao 266109, China.
(4)College of Veterinary Medicine, Qingdao Agricultural University, Qingdao 266109, China. Electronic address: hush@qau.edu.cn.
(5)National Risk Assessment Laboratory for Antimicrobial Resistance of Microorganisms in Animals, College of Veterinary Medicine, South China Agricultural University, Guangzhou 510642, China. Electronic address: fangbh@scau.edu.cn.

INTRODUCTION: Haemophilus parasuis, one of the major swine pathogens, has at least fifteen different types, all of which have significant economic effects on the global swine industry. The aim of this study was to establish an experimental intraperitoneal infection model for H. parasuis in neutropenic guinea pigs.
METHODS: Intraperitoneal administration of cyclophosphamide and Haemophilus parasuis was conducted in guinea pigs. Clinical signs, gross pathology, and histopathology were observed in neutropenic guinea pigs infected with H. parasuis.
RESULTS: Intraperitoneal administration of 100 mg/kg cyclophosphamide led to immunosuppression with white blood cells, lymphocytes, and neutrophils all <1000 mm3, while no histological tissue damage was observed. Intraperitoneal administration of 109 colony-forming units (CFU) of H. parasuis led to typical respiratory symptoms, 90% morbidity, and 20% mortality in a 72 h-period. Bacteriological screening revealed that multiple organs, including the heart, liver, spleen, lungs, kidneys, and blood, were infected with H. parasuis. The threshold loads of bacteria in blood and the lungs were (7.04 ± 0.53)log10 CFU/mL and (6.24 ± 0.62)log10 CFU/g, respectively, at 3 d after infection. Gross pathology examination showed celiac effusion, intestinal mucosal hemorrhage, and liver, spleen, or lung swelling, necrosis, and hemorrhage. Congestion, mild interstitial pneumonia, inflammatory exudation, and endothelial cell proliferation were observed in the histological examination.
DISCUSSION: All the results suggest that we have established an experimental intraperitoneal infection model for H. parasuis in neutropenic guinea pigs. It is especially useful as a tool for pharmacokinetics, pharmacodynamics, or a pharmacokinetics/pharmacodynamics (PK/PD) model of antimicrobial agents against respiratory disease.

DOI: 10.1016/j.vascn.2018.11.008
PMID: 30476621

85. Gene. 2019 Mar 1;687:280-288. doi: 10.1016/j.gene.2018.11.054. Epub 2018 Nov 20.

High incidence of co-existing factors significantly modifying the phenotype in patients with Fabry disease.

Koca S(1), Tümer L(1), Okur İ(1), Erten Y(2), Bakkaloğlu S(3), Biberoğlu G(1), Kasapkara Ç(1), Küçükçongar A(1), Dalgıç B(4), Oktar SÖ(5), Öner Y(5), Atalay T(6), Cemri M(7), Çiftçi B(8), Topçu B(1), Hasanoğlu A(1), Ezgü F(9).

Author information:
(1)Gazi University Faculty of Medicine, Department of Pediatric Metabolic Disorders, Ankara, Turkey.
(2)Gazi University Faculty of Medicine, Department of Adult Nephrology, Ankara, Turkey.
(3)Gazi University Faculty of Medicine, Department of Pediatric Nephrology, Ankara, Turkey.
(4)Gazi University Faculty of Medicine, Department of Pediatric Gastroenterology, Ankara, Turkey.
(5)Gazi University Faculty of Medicine, Department of Radiology, Ankara, Turkey.
(6)Gazi University Faculty of Medicine, Department of Ophthalmology, Ankara, Turkey.
(7)Gazi University Faculty of Medicine, Department of Cardiology, Ankara, Turkey.
(8)Gazi University Faculty of Medicine, Department of Pediatric Genetic Disorders, Ankara, Turkey.
(9)Gazi University Faculty of Medicine, Department of Pediatric Metabolic Disorders, Ankara, Turkey; Gazi University Faculty of Medicine, Department of Pediatric Genetic Disorders, Ankara, Turkey. Electronic address: fezgu@gazi.edu.tr.

Fabry disease results from deficiency of the lysosomal enzyme alpha-galactosidase A. The families of 11 index cases were screened by enzyme and molecular assays. Further clinical and laboratory investigations were carried out in all cases. Including 33 new patients, a total of 28 females (Age 25,82 ± 12,1 Range 8-46) and 16 males (Age 24,56 ± 15,04 Range 2-48) were investigated. Ten different disease-causing variants were found two of them being novel. One patient had co-existing familial mediteranian fever, one had celiac disease and three had rheumatological disorders. Lipoprotein (a) levels were elevated in 17,6%, homocysteine in 22,2%, total and low density cholesterol in 12% and antithrombin 3 levels were elevated in 13,3%. One patient was found to be heterozygous for prothrombin p.G20210A disease-causing variant (5,8%) and two for factor V Leiden disease-causing variant (11,7%). Anticardiolipin IgM antibody was found to be positive in 11,7%. The patients with abnormal cranial imaging were also noticed to have additional risk factors for thrombosis. This study provides the largest data about Fabry patients from Turkey and implies that co-existing risk factors unrelated to Fabry Disease have significant association with the presence of clinical symptoms in females and might cause an early and severe clinical course in males.

DOI: 10.1016/j.gene.2018.11.054
PMID: 30468909 [Indexed for MEDLINE]

86. Med Clin North Am. 2019 Jan;103(1):89-99. doi: 10.1016/j.mcna.2018.08.011. Epub 2018 Nov 1.

Who Should Be Gluten-Free? A Review for the General Practitioner.

Pearlman M(1), Casey L(2).

Author information:
(1)Department of Internal Medicine, Division of Digestive and Liver Diseases, University of Texas Southwestern, 5323 Harry Hines Boulevard, Dallas, TX 75390-9151, USA.
(2)Department of Internal Medicine, Division of Digestive and Liver Diseases, University of Texas Southwestern, 5323 Harry Hines Boulevard, Dallas, TX 75390-9151, USA. Electronic address: Lisa.Casey@utsouthwestern.edu.

Historically, a gluten-free diet was recommended only for those with celiac disease or IgE-mediated wheat allergy. With changes in food allergy labeling in the United States and the publication of several best-selling books, gluten-related disorders have come to the forefront of popular culture. As a result, there has been a dramatic increase in the number of gluten-free diet followers, many for nontraditional reasons. As "going gluten-free" has become mainstream, it is imperative that health care providers acquire the knowledge to identify true gluten-related disorders to effectively counsel their patients and minimize potential complications from following such a restrictive diet.

DOI: 10.1016/j.mcna.2018.08.011
PMID: 30466678 [Indexed for MEDLINE]

87. J Biol Chem. 2019 Jan 18;294(3):941-952. doi: 10.1074/jbc.RA118.005736. Epub 2018 Nov 19.

Discriminative T-cell receptor recognition of highly homologous HLA-DQ2-bound gluten epitopes.

Dahal-Koirala S(1)(2), Ciacchi L(3)(4), Petersen J(3)(4), Risnes LF(1)(2), Neumann RS(2), Christophersen A(2), Lundin KEA(2)(5), Reid HH(3)(4), Qiao SW(1)(2), Rossjohn J(6)(4)(7), Sollid LM(8)(2).

Author information:
(1)From the Department of Immunology, University of Oslo and Oslo University Hospital-Rikshospitalet, 0372 Oslo, Norway.
(2)the K. G. Jebsen Centre for Coeliac Disease Research, University of Oslo, 0424 Oslo, Norway.
(3)the Infection and Immunity Program and Department of Biochemistry and Molecular Biology, Biomedicine Discovery Institute and.
(4)the Australian Research Council (ARC) Centre of Excellence in Advanced Molecular Imaging, Monash University, Clayton, Victoria 3800, Australia.
(5)the Department of Gastroenterology, Oslo University Hospital-Rikshospitalet, 0372 Oslo, Norway, and.
(6)the Infection and Immunity Program and Department of Biochemistry and Molecular Biology, Biomedicine Discovery Institute and Jamie.rossjohn@monash.edu.
(7)the Institute of Infection and Immunity, School of Medicine, Cardiff University, Cardiff CF14 4XN, Wales, United Kingdom.
(8)From the Department of Immunology, University of Oslo and Oslo University Hospital-Rikshospitalet, 0372 Oslo, Norway, l.m.sollid@medisin.uio.no.

Celiac disease (CeD) provides an opportunity to study the specificity underlying human T-cell responses to an array of similar epitopes presented by the same

human leukocyte antigen II (HLA-II) molecule. Here, we investigated T-cell responses to the two immunodominant and highly homologous HLA-DQ2.5-restricted gluten epitopes, DQ2.5-glia-α1a (PFPQPELPY) and DQ2.5-glia-ω1 (PFPQPEQPF). Using HLA-DQ2.5-DQ2.5-glia-α1a and HLA-DQ2.5-DQ2.5-glia-ω1 tetramers and single-cell αβ T-cell receptor (TCR) sequencing, we observed that despite similarity in biased variable-gene usage in the TCR repertoire responding to these nearly identical peptide-HLA-II complexes, most of the T cells are specific for either of the two epitopes. To understand the molecular basis of this exquisite fine specificity, we undertook Ala substitution assays revealing that the p7 residue (Leu/Gln) is critical for specific epitope recognition by both DQ2.5-glia-α1a- and DQ2.5-glia-ω1-reactive T-cell clones. We determined high-resolution binary crystal structures of HLA-DQ2.5 bound to DQ2.5-glia-α1a (2.0 Å) and DQ2.5-glia-ω1 (2.6 Å). These structures disclosed that differences around the p7 residue subtly alter the neighboring substructure and electrostatic properties of the HLA-DQ2.5-peptide complex, providing the fine specificity underlying the responses against these two highly homologous gluten epitopes. This study underscores the ability of TCRs to recognize subtle differences in the peptide-HLA-II landscape in a human disease setting.

DOI: 10.1074/jbc.RA118.005736
PMCID: PMC6341401 [Available on 2020-01-18]
PMID: 30455354

88. J Diabetes Complications. 2019 Jan;33(1):59-62. doi: 10.1016/j.jdiacomp.2018.10.001. Epub 2018 Oct 25.

Contribution of HLA-DQ2/DQ8 haplotypes in type one diabetes patients with/without celiac disease.

Moheb-Alian A(1), Forouzesh F(2), Sadeghi A(3), Rostami K(4), Aghamohammadi E(5), Rostami-Nejad M(6), Rezaei-Tavirani M(7), Zali MR(3).

Author information:
(1)Gastroenterology and Liver Diseases Research Center, Research Institute for Gastroenterology and Liver Diseases, Shahid Beheshti University of Medical Sciences, Tehran, Iran; Department of Genetics, Tehran Medical Sciences Branch, Islamic Azad University, Tehran, Iran.
(2)Department of Genetics, Tehran Medical Sciences Branch, Islamic Azad University, Tehran, Iran.
(3)Gastroenterology and Liver Diseases Research Center, Research Institute for Gastroenterology and Liver Diseases, Shahid Beheshti University of Medical Sciences, Tehran, Iran.
(4)Department of Gastroenterology MidCentral District Health Board, Palmerston North Hospital, New Zealand.
(5)Basic and Molecular Epidemiology of Gastrointestinal Disorders Research Center, Research Institute for Gastroenterology and Liver Diseases, Shahid Beheshti University of Medical Sciences, Tehran, Iran.
(6)Gastroenterology and Liver Diseases Research Center, Research Institute for Gastroenterology and Liver Diseases, Shahid Beheshti University of Medical Sciences, Tehran, Iran. Electronic address: m.rostamii@gmail.com.
(7)Proteomics Research Center, Faculty of Paramedical Sciences, Shahid Beheshti University of Medical Sciences, Tehran, Iran.

BACKGROUND: Based on lack of data on the distribution of the related alleles in

the T1D population in Iranian population, we assessed the frequency of HLA DQ2 and DQ8 haplotypes in patients with T1D with/without CD compared to healthy population.
MATERIALS AND METHODS: 70 patients with T1D without celiac disease, 60 T1D cases with CD were compared to 150 healthy individuals during 2016. Ten mililiter Gheparinized blood samples were collected, genomic DNA was extracted and alleles were genotyped by Real-time PCR using SYBR Green as a low-resolution method.
RESULTS: HLA-DQ2 and/or HLA-DQ8 genotypes was presented in 51% and 23% of T1D patients without CD respectively. Twenty one percent of those patients carried both alleles and 5% were negative for both alleles. T1D patients with CD had much higher DQ2 frequency (72%) and lower DQ8 (11.6%), than T1D patients without CD and controls, 14% carried both alleles and 3% were negative for both. The frequencies of DQ2 and DQ8 alleles in Iranian healthy population were 19 and 5% respectively.
CONCLUSION: According to the same genetic background for CD and T1D we suggest that HLA-typing can be a very useful screening tool for CD in patients with type one diabetes.

DOI: 10.1016/j.jdiacomp.2018.10.001
PMID: 30415877

89. Comput Biol Med. 2019 Jan;104:335-338. doi: 10.1016/j.compbiomed.2018.10.020. Epub 2018 Oct 19.

Coeliac disease under a microscope: Histological diagnostic features and confounding factors.

Gibiino G(1), Lopetuso L(2), Ricci R(3), Gasbarrini A(2), Cammarota G(2).

Author information:
(1)Internal Medicine and, Gastroenterology and Hepatic Diseases Unit, IRCCS Fondazione Policlinico Universitario A. Gemelli, Università Cattolica del Sacro Cuore, Rome, Italy. Electronic address: giulia.gibiino@gmail.com.
(2)Internal Medicine and, Gastroenterology and Hepatic Diseases Unit, IRCCS Fondazione Policlinico Universitario A. Gemelli, Università Cattolica del Sacro Cuore, Rome, Italy.
(3)Institute of Pathology, IRCCS Fondazione Policlinico Universitario A. Gemelli, Università Cattolica del Sacro Cuore, Rome, Italy.

Coeliac disease (CD) and gluten-related disorders represent an important cornerstone of the daily practice of gastroenterologists, endoscopists and dedicated histopathologists. Despite the knowledge of clinical, serological and histological typical lesions, there are some conditions to consider for differential diagnosis. From the first description of histology of CD, several studies were conducted to define similar findings suggestive for microscopic enteritis. Considering the establishment of early precursor lesions, the imbalance of gut microbiota is another point still requiring a detailed definition. This review assesses the importance of a right overview in case of suspected gluten-related disorders and the several conditions mimicking a similar histology.

DOI: 10.1016/j.compbiomed.2018.10.020

PMID: 30409469

90. Curr Opin Gastroenterol. 2019 Jan;35(1):27-33. doi: 10.1097/MOG.0000000000000499.

Irritable bowel syndrome and colonic diverticular disease: overlapping symptoms and overlapping therapeutic approaches.

Alamo RZ(1), Quigley EMM.

Author information:
(1)Division of Gastroenterology and Hepatology, Lynda K and David M Underwood Center for Digestive Disorders, Houston Methodist Hospital and Weill Cornell Medical College, Houston, Texas, USA.

PURPOSE OF REVIEW: Irritable bowel syndrome (IBS) is a common symptomatic disorder in the Western world and colonic diverticula are also prevalent; however, relationships between IBS-type symptoms and diverticula have been a source of much debate. Our goal was to reassess these relationships in the light of new data.
RECENT FINDINGS: On removing from consideration clinical scenarios which are directly related to diverticula (i.e., diverticulitis, diverticular hemorrhage, and complications of diverticulitis, such as stricture and fistula), relationships between IBS and diverticula can be seen to revolve around a number of questions. First, are IBS and symptomatic uncomplicated diverticular disease (SUDD) the same condition? Or, in other words is SUDD no more than IBS in an individual who just happens to have diverticula? Although coincident IBS and diverticula inevitably do occur there is some evidence to indicate that SUDD may be somewhat distinctive with SUDD being characterized by more frequent and severe pain. Second, and analogous to interactions between IBS and inflammatory bowel disease or celiac disease, can an episode of acute diverticulitis lead to the de novo development of IBS? There is now epidemiological and pathophysiological evidence to support this occurrence.
SUMMARY: Although relationships between uncomplicated diverticular disease and IBS have been reexamined their status remains unclear. As yet, however, none of the newer concepts related to this relationship have led to new therapeutic approaches in IBS or diverticular disease.

DOI: 10.1097/MOG.0000000000000499
PMID: 30407258

91. Int J Food Microbiol. 2019 Feb 2;290:237-246. doi: 10.1016/j.ijfoodmicro.2018.10.016. Epub 2018 Oct 24.

Gluten-free and low-FODMAP sourdoughs for patients with coeliac disease and irritable bowel syndrome: A clinical perspective.

Muir JG(1), Varney JE(2), Ajamian M(2), Gibson PR(2).

Author information:
(1)Department of Gastroenterology, Central Clinical School, Level 6-The Alfred Centre, 99 Commercial Road, Monash University, Melbourne 3004, Australia. Electronic address: Jane.Muir@monash.edu.
(2)Department of Gastroenterology, Central Clinical School, Level 6-The Alfred Centre, 99 Commercial Road, Monash University, Melbourne 3004, Australia.

Wheat- and gluten-containing products are often blamed for triggering a wide range of gastrointestinal symptoms, and this has fueled demand for gluten-free products worldwide. The best studied 'gluten intolerance' is coeliac disease, an auto-immune disease that affects the small intestine. Coeliac disease occurs in 1% of the population and requires strict, life-long avoidance of gluten-containing foods as the only medical treatment. There is a larger group of individuals (around 10-15% of the population) who report a wide-range of gastrointestinal symptoms that respond well to a 'gluten-free diet', but who do not have coeliac disease - so called 'non-coeliac gluten sensitivity (NCGS)'. The team at Monash University has identified other factors in gluten-containing foods that may be responsible for symptoms in this group of individuals with so-called, NCGS. We have evidence that certain poorly absorbed short chain carbohydrates (called FODMAPs) present in many gluten-containing food products, induce symptoms of abdominal pain, bloating, wind and altered bowel habit (associated with irritable bowel syndrome, IBS). Our research has shown that FODMAPs, and not gluten, triggered symptoms in NCGS. Going forward, there are great opportunities for the food industry to develop low FODMAP products for this group, as choice of grain variety and type of food processing technique can greatly reduce the FODMAP levels in foods. The use of sourdough cultures in bread making has been shown to reduce the quantities of FODMAPs (mostly fructan), resulting in bread products that are well tolerated by patients with IBS. Greater interaction between biomedical- and food-scientists will improve understanding about the clinical problems many consumers face, and lead to the development of food products that are better tolerated by this group.

DOI: 10.1016/j.ijfoodmicro.2018.10.016
PMID: 30388591

92. Mult Scler Relat Disord. 2019 Jan;27:156-163. doi: 10.1016/j.msard.2018.10.019. Epub 2018 Oct 23.

The role of gluten in multiple sclerosis: A systematic review.

Thomsen HL(1), Jessen EB(1), Passali M(1), Frederiksen JL(2).

Author information:
(1)Department of Nutrition, Exercise and Sports, Faculty of Science, University of Copenhagen, Denmark and Bartholin Institute, Rigshospitalet.
(2)Multiple Sclerosis Clinic, Department of Neurology, Rigshospitalet Glostrup and University of Copenhagen, Valdemar Hansens Vej 13, DK-2600 Denmark. Electronic address: jette.lautrup.battistini@regionh.dk.

BACKGROUND: There is an increasing interest in diet as a modifying factor in multiple sclerosis (MS), and gluten has been suggested to affect MS.
OBJECTIVE: The aim of this systematic review is to qualitatively evaluate the evidence on the role of gluten in MS.
METHODS: A review protocol was submitted to PROSPERO. A systematic literature search was conducted in PubMed, Web of Science, Scopus, Embase, Cab Abstracts, and Google Scholar. Studies on patients with MS, clinically isolated syndrome, or celiac disease presenting with MS-related markers were included, if they investigated effects of diets containing specified amounts of gluten or associations between gluten sensitivities and MS.
RESULTS: Forty-nine publications presenting 50 studies/cases met the inclusion criteria. Study designs, methods, and outcomes varied broadly across studies. Two

intervention studies found a positive effect of a gluten-free diet on disease-related markers in patients with MS. One prospective cohort study also found a positive effect of a gluten-free diet, while a survey found intake of cereal/bread to be protective against MS. Four observational studies did not find increased comorbidity of MS and celiac disease. Seventeen studies investigated the level of different gluten-sensitivity markers in patients with MS with inconsistent results. Finally, 12 cases and 13 posters/abstracts/master's theses contributed to shed light on the topic.
CONCLUSIONS: There is still not sufficient evidence to state whether gluten plays a role in MS, but limitations of current evidence have been identified and directions of future research have been suggested.

DOI: 10.1016/j.msard.2018.10.019
PMID: 30384202

93. Food Chem. 2019 Feb 15;274:566-573. doi: 10.1016/j.foodchem.2018.09.025. Epub 2018 Sep 5.

Oro-gastro-intestinal digestion of starch in white bread, wheat-based and gluten-free pasta: Unveiling the contribution of human salivary α-amylase.

Freitas D(1), Le Feunteun S(2).

Author information:
(1)UMR GMPA, AgroParisTech, INRA, Université Paris-Saclay, 78850 Thiverval-Grignon, France.
(2)UMR GMPA, AgroParisTech, INRA, Université Paris-Saclay, 78850 Thiverval-Grignon, France. Electronic address: steven.le-feunteun@inra.fr.

Starch is a major determinant of the glycemic responses elicited by our diets, but the exact contribution of the two main amylolytic enzymes (salivary and pancreatic α-amylases) remains a matter of debate. Our aim was to investigate the contribution of the oral, gastric and intestinal phases to the hydrolysis of starch in bread and pasta during dynamic in vitro digestions using DiDGI®. Before its inactivation by the low gastric pH, salivary α-amylase released about 80% of the starch in bread and 30% of that in pasta, hydrolysing over half of it into oligosaccharides. Accordingly, the contribution of pancreatic α-amylase during the intestinal phase was lower for bread than pasta. Our results are well correlated with in vivo data, and demonstrate the importance of salivary α-amylase during oro-gastric processing of starchy foods. This finding is discussed in relation with observations regarding salivary α-amylase from other fields of knowledge.

DOI: 10.1016/j.foodchem.2018.09.025
PMID: 30372980 [Indexed for MEDLINE]

94. Am J Surg Pathol. 2019 Feb;43(2):151-160. doi: 10.1097/PAS.0000000000001172.

Clinical Insignficance of Monoclonal T-Cell Populations and Duodenal Intraepithelial T-Cell Phenotypes in Celiac and Nonceliac Patients.

Celli R(1), Hui P(1), Triscott H(2), Bogardus S(3), Gibson J(1), Hwang M(1), Robert ME(1).

Author information:
(1)Departments of Pathology.
(2)Yale College, New Haven, CT.
(3)Internal Medicine, Yale University School of Medicine.

Refractory celiac disease (RCD) is a rare condition, usually managed at specialized centers. However, gastroenterologists and pathologists in general practices are often the first to consider a diagnosis of RCD in celiac patients with persistent symptoms. The distinction between type I and type II RCD is crucial as patients with RCD II have a shortened life expectancy. The diagnosis of RCD II requires the demonstration of abnormal intraepithelial lymphocytes and/or monoclonal T-cell populations in duodenal biopsies, typically assessed in formalin-fixed paraffin-embedded tissue. We investigated the clinical significance of T-cell receptor gene rearrangements and CD3/CD8 staining in formalin-fixed paraffin-embedded biopsies from 32 patients with RCD I (4), RCD II (3), newly diagnosed celiac disease (CD) (10), established CD patients with follow-up biopsies (10), and Helicobacter pylori-associated lymphocytosis (5). Clonal T-cell populations were present in all lymphocytosis groups but not in normal controls. No difference in the frequency of clonal populations or persistence of identical clones was found between RCD I and II patients. The degree of villous blunting did not correlate with clonal status in any group. No difference in the number of CD3/CD8-positive intraepithelial lymphocytes per 100 enterocytes was found between groups. We suggest that clonal evaluation of T cells should not be employed routinely in the evaluation of CD patients with persistent symptoms until common causes of "apparent refractoriness" have been excluded. In addition, lymphocyte phenotyping and T-cell clonal analysis appear to be insufficient as stand-alone tests to reliably distinguish RCD I and II.

DOI: 10.1097/PAS.0000000000001172
PMID: 30334829

95. Carbohydr Polym. 2019 Jan 1;203:228-237. doi: 10.1016/j.carbpol.2018.09.061. Epub 2018 Sep 26.

Tunable drug release from nanofibers coated with blank cellulose acetate layers fabricated using tri-axial electrospinning.

Yang Y(1), Li W(2), Yu DG(3), Wang G(2), Williams GR(4), Zhang Z(5).

Author information:
(1)School of Materials Science & Engineering, University of Shanghai for Science & Technology, Shanghai 200093, China.
(2)School of Chemistry & Chemical Engineering, Wuhan University of Science & Technology, Wuhan 430081, China.
(3)School of Materials Science & Engineering, University of Shanghai for Science & Technology, Shanghai 200093, China. Electronic address: ydg017@usst.edu.cn.
(4)UCL School of Pharmacy, University College London, 29-39 Brunswick Square, London WC1N 1AX, UK.
(5)Department of Internal Medicine, The Hospital of Wuhan University of Science & Technology, Wuhan 430081, China. Electronic address: zhangzhu75@wust.edu.cn.

In this study, novel core-shell nanostructures were fabricated through a modified triaxial electrospinning process. These comprised a drug-protein nanocomposite

coated with a thin cellulose acetate (CA) shell. They were generated through the simultaneous treatment of an outer solvent, an unelectrospinnable middle fluid, and an electrospinnable core solution in triaxial electrospinning. SEM and TEM results revealed that the core-shell nanofibers had linear and cylindrical morphologies with a diameter from 0.66 to 0.87 μm, and distinct core-shell structures with a shell thickness from 1.8 to 11.6 nm. The presence of a CA coating eliminated the initial burst release of ibuprofen seen from a monolithic drug-protein composite, and allowed us to precisely manipulate the drug release (for a 90% percentage) over a time period from 23.5 to 43.9 h in a tunable manner. Mathematical relationships between the processing conditions, the nanostructures produced, and their functional performance were elucidated.

DOI: 10.1016/j.carbpol.2018.09.061
PMID: 30318208 [Indexed for MEDLINE]

96. Dig Dis Sci. 2019 Jan;64(1):173-181. doi: 10.1007/s10620-018-5320-0. Epub 2018 Oct 12.

Prevalence and Clinical Features of Celiac Disease in Healthy School-Aged Children.

Beser OF(1), Gulluelli E(2), Cullu Cokugras F(3), Erkan T(3), Kutlu T(3), Yagci RV(4), Erbek Alp F(5), Ercal G(6), Kepil N(7), Kucur M(8); Northern Cyprus Celiac Study Group.

Collaborators: Karbuz A, Guler S, Kacar A, Sazak S, Ince F, Ozdil Cirkinoglu M, Kavaz B, Madi H, Oksuz S, Develi BY, Oner N, Aribuka K, Guçlu S, Gardiyanoglu R, Incirli N.

Author information:
(1)Division of Pediatric Gastroenterology, Hepatology, and Nutrition, Department of Pediatrics, University of Health Sciences, Okmeydani Education and Training Hospital, Istanbul, Turkey. ofbeser@gmail.com.
(2)Director of Basic Health Care Office, Northern Cyprus Ministry of Health, Nicosia, Cyprus.
(3)Division of Pediatric Gastroenterology, Hepatology, and Nutrition, Department of Pediatrics, Istanbul University Cerrahpasa Medical Faculty, Istanbul, Turkey.
(4)Division of Pediatric Gastroenterology, Hepatology, and Nutrition, Department of Pediatrics, Ege University Medical Faculty, Izmir, Turkey.
(5)Department of Pediatrics, Istanbul University Cerrahpasa Medical Faculty, Istanbul, Turkey.
(6)Cyprus Turkish Pediatric Association, Nicosia, Cyprus.
(7)Department of Pathology, Istanbul University Cerrahpasa Medical Faculty, Istanbul, Turkey.
(8)Department of Medical Biochemistry, Istanbul University Cerrahpasa Medical Faculty, Istanbul, Turkey.

BACKGROUND/AIMS: The aim of this study was to determine the prevalence of celiac disease (CD) in healthy school-aged children in the northern region of Cyprus and to investigate the existence of potential markers that may accompany CD. This is the first study to measure the prevalence of CD in the northern region of Cyprus.
METHODS: This study included 3792 school-aged children who were between the ages of 6 and 10 years between January 2015 and October 2016. CD was screened using total serum IgA, IgA anti-tissue transglutaminase (tTG), and IgA antiendomysial

(EMA) antibodies. Subjects with selective IgA deficiency were further tested for IgG-tTG. Small intestinal biopsies were performed on all subjects with tTG antibody positivity. Risk factors and symptoms related to CD were evaluated using questionnaires in both the CD and control groups.
RESULTS: Of the 3792 subjects, 39 were antibody positive (IgA-tTG was positive only in 14 subjects, IgA-tTG plus IgA-EMA in 21 subjects, and IgG-tTG in 4 subjects). IgA deficiency was detected in 11 subjects (0.29%). IgG-tTG was positive in 4 subjects with IgA deficiency (36.3%). Intestinal biopsies were performed on 28 of the 39 seropositive subjects. The biopsy findings of 15 children were consistent with CD (IgA-tTG positive in 3, IgA-tTG and IgA-EMA positive in 10, and IgG-tTG positive in 2). Thus, biopsies confirmed CD in 1:256 children (0.39%).
CONCLUSIONS: Our study, which is the first study of school-aged children from the northern region of Cyprus, revealed that CD is a prevalent disease in this region.

DOI: 10.1007/s10620-018-5320-0
PMID: 30311156

97. Dig Dis Sci. 2019 Jan;64(1):167-172. doi: 10.1007/s10620-018-5323-x. Epub 2018 Oct 11.

Ultra-short Celiac Disease Is a Distinct and Milder Phenotype of the Disease in Children.

Doyev R(1)(2), Cohen S(3)(4), Ben-Tov A(1)(2), Weintraub Y(1)(2), Amir A(1)(2), Galai T(1)(2), Moran-Lev H(1)(2), Yerushalmy-Feler A(1)(2).

Author information:
(1)Pediatric Gastroenterology Unit, "Dana-Dwek" Children's Hospital, Tel Aviv Sourasky Medical Center, 6 Weizmann Street, 6423906, Tel Aviv, Israel.
(2)Sackler Faculty of Medicine, Tel Aviv University, Tel Aviv, Israel.
(3)Pediatric Gastroenterology Unit, "Dana-Dwek" Children's Hospital, Tel Aviv Sourasky Medical Center, 6 Weizmann Street, 6423906, Tel Aviv, Israel. shlomico@tlvmc.gov.il.
(4)Sackler Faculty of Medicine, Tel Aviv University, Tel Aviv, Israel. shlomico@tlvmc.gov.il.

BACKGROUND AND AIMS: Approximately 10% of children with celiac disease (CD) have ultra-short celiac disease (USCD), where histological abnormalities are limited to the duodenal bulb. The aim of our retrospective study was to identify clinical and serological characteristics at baseline and at follow-up of children with USCD.
METHODS: All children that were diagnosed with CD in our unit during 7/2010-12/2017, in whom biopsies were taken from duodenal bulb and second part, were included. We compared disease characteristics and course between children with USCD and children with involvement in the second part of the duodenum.
RESULTS: Out of 3740 children who underwent upper gastrointestinal endoscopies, 648 were diagnosed with CD. Seventy-one (11%) of those children had limited involvement in the duodenal bulb. The USCD group included more females ($P = 0.021$), were older ($P = 0.005$), had a lower prevalence of diarrhea ($P = 0.003$), anemia ($P = 0.007$), anti-tissue transglutaminase (TTG) antibodies count ($P < 0.001$) at presentation, lower frequency of endoscopic abnormality, lower Marsh score, and a trend toward shorter time to the normalization of anti-TTG antibodies under a gluten-free diet compared to the extensive CD. There were no differences in body mass index or duration of symptoms before diagnosis.

CONCLUSION: Children with USCD presented with a distinct phenotype of milder symptoms, lower celiac serology, and milder endoscopic and histological findings, with a trend toward faster normalization under a gluten-free diet compared to those with extensive CD. Further studies are needed to determine the long-term course and prognosis of USCD.

DOI: 10.1007/s10620-018-5323-x
PMID: 30311150

98. Food Chem. 2019 Jan 30;272:76-83. doi: 10.1016/j.foodchem.2018.08.047. Epub 2018 Aug 10.

Effect of interesterified blend-based fast-frozen special fat on the physical properties and microstructure of frozen dough.

Zhu TW(1), Zhang X(2), Li B(2), Wu H(3).

Author information:
(1)School of Food Science and Engineering, South China University of Technology, Guangzhou 510640, China.
(2)School of Food Science and Engineering, South China University of Technology, Guangzhou 510640, China; Guangdong Province Key Laboratory for Green Processing of Natural Products and Product Safety, Guangzhou 510640, China.
(3)School of Food Science and Engineering, South China University of Technology, Guangzhou 510640, China; Guangdong Province Key Laboratory for Green Processing of Natural Products and Product Safety, Guangzhou 510640, China. Electronic address: bbhwu@scut.edu.cn.

To better understand the effect of interesterified blend-based fast-frozen special fat (IBSF) on the quality of frozen dough, the physical properties and microstructure of frozen dough were investigated. The presence of IBSF in the frozen dough increased the gelatinization enthalpy (from 0.16 to 0.26 J/g) and decreased the degree of retrogradation (from 81.3% to 53.8%). The frozen dough added with IBSF also exhibited enhanced extensibility and greater flexibility. Data of DSC and Low-field NMR demonstrated that addition of IBSF significantly reduced the freezable water content and mobility of free water. SEM analysis showed that the starch granules were arranged in the gluten network of frozen dough. Compared with the corresponding physical blend-based special fat and commercial special fat, IBSF not only exhibited favorable influence on the quality of frozen dough, but didn't have trans-fatty acid. These results suggest that IBSF is promising in the preparation of prefrozen fast food.

DOI: 10.1016/j.foodchem.2018.08.047
PMID: 30309607 [Indexed for MEDLINE]

99. Clin Pediatr (Phila). 2019 Jan;58(1):79-87. doi: 10.1177/0009922818806317. Epub 2018 Oct 11.

Algorithm to Predict Which Children With Chronic Abdominal Pain Are Low Suspicion for Significant Endoscopic Findings.

Mark JA(1)(2), Campbell K(3), Gao D(3), Kramer RE(1)(2).

Author information:
(1)1 Children's Hospital Colorado, Aurora, CO, USA.
(2)2 University of Colorado Denver School of Medicine, Aurora, CO, USA.
(3)3 University of Colorado Anschutz Medical Campus, Aurora, CO, USA.

Chronic abdominal pain (CAP) is a common and challenging problem in pediatric primary and specialty care. We developed a diagnostic algorithm to organize workup for gastrointestinal causes of CAP and improve identification of patients who are low suspicion (LS) or high suspicion (HS) to have significant intestinal pathology identified with endoscopy. We retrospectively used this algorithm to categorize 150 outpatients with CAP as LS (n = 99) or HS (n = 51) and examined subsequent endoscopic findings for all patients. There were 6% significant diagnoses in the LS group compared with 34% in the HS group (P < .0001). The LS group had no patients with celiac or inflammatory bowel disease. These results can be used to help a clinician approach CAP, and discuss with families the likelihood of endoscopy finding a cause for CAP based on LS or HS designation.

DOI: 10.1177/0009922818806317
PMID: 30306797

100. J Hum Nutr Diet. 2019 Feb;32(1):72-79. doi: 10.1111/jhn.12597. Epub 2018 Oct 2.

Experiences of coeliac disease in a changing gluten-free landscape.

King JA(1)(2), Kaplan GG(1)(3)(4), Godley J(2)(4).

Author information:
(1)Department of Community Health Sciences, Cumming School of Medicine, University of Calgary, Calgary, Alberta, Canada.
(2)Department of Sociology, Faculty of Arts, University of Calgary, Calgary, Alberta, Canada.
(3)Department of Medicine, Cumming School of Medicine, University of Calgary, Calgary, Alberta, Canada.
(4)O'Brien Institute for Public Health, University of Calgary, Calgary, Alberta, Canada.

BACKGROUND: Coeliac disease is an autoimmune disorder triggered by the ingestion of gluten. In recent years, there has been considerable increase in the availability of gluten-free products in North America. The present study investigated how the recent proliferation of the gluten-free industry has affected individuals living with coeliac disease, with a primary focus on their social lives and relationships.
METHODS: Interpretive phenomenology was utilised for study design and analysis. Semi-structured interviews were conducted with 17 adults diagnosed with coeliac disease in Calgary, Alberta. Interviews were audio recorded and then transcribed for analysis.
RESULTS: People living with coeliac disease experience the growth of the gluten-free industry as a 'double-edged sword'. Although they are grateful for more palatable gluten-free options, they are increasingly faced with misunderstandings about the severity of coeliac disease as a result of many noncoeliac disease individuals subscribing to the gluten-free diet. This 'double-edged sword' made certain types of social situations more easily manageable (e.g. more gluten-free options available at restaurants), whereas others produced distress (e.g. increased risk of inadvertently consuming gluten). Participants also felt they may be perceived or even perceived themselves differently (e.g. felt high maintenance). To help mitigate these social

ramifications of following the gluten-free diet, participants utilised various strategies.
CONCLUSIONS: The sole medical recommendation of a gluten-free diet fails to acknowledge the ongoing difficulties those with coeliac disease can endure in the current gluten-free landscape. Recommendations beyond the gluten-free diet are advisable to alleviate many of the indirect burdens revealed in the present study.

DOI: 10.1111/jhn.12597
PMID: 30280436

101. Methods Mol Biol. 2019;1871:405-412. doi: 10.1007/978-1-4939-8814-3_22.

Efficient Extraction and Digestion of Gluten Proteins.

Li H(1)(2), Byrne K(1), Howitt CA(3), Colgrave ML(4).

Author information:
(1)CSIRO Agriculture and Food, St Lucia, QLD, Australia.
(2)Institute of Animal Husbandry and Veterinary Science, Henan Academy of Agricultural Sciences, Zhengzhou, Henan, China.
(3)CSIRO Agriculture and Food, Canberra, ACT, Australia.
(4)CSIRO Agriculture and Food, St Lucia, QLD, Australia.
michelle.colgrave@csiro.au.

Coeliac disease (CD) is a T-cell mediated autoimmune disorder triggered by ingestion of cereal gluten found in wheat (gliadins and glutenins), barley (hordeins), and rye (secalins). As the only treatment for CD is a lifelong gluten-free diet, the measurement of gluten in raw ingredients and processed food products is critical to protecting people with CD or gluten intolerance. The most commonly employed method is the enzyme-linked immunosorbent assay (ELISA), but more recently mass spectrometry has been employed wherein the extracted gluten proteins are digested to peptides that are then directly measured. To achieve the goal of accurate gluten quantitation, gluten must be efficiently extracted from the ingredient or food matrix and then digested to yield the peptides that are monitored by LC-MS. In this chapter, a rapid, simple, and reproducible protocol for extraction and digestion of gluten proteins is described.

DOI: 10.1007/978-1-4939-8814-3_22
PMID: 30276750

102. J Psychosoc Nurs Ment Health Serv. 2019 Feb 1;57(2):25-34. doi: 10.3928/02793695-20180924-01. Epub 2018 Oct 1.

Examination of Executive Function and Social Phobia Among Female College-Aged Students With Celiac Disease.

Arnone JM, Rizzolo D, Conti RP.

Celiac disease (CD) is a T-cell mediated genetically inherited autoimmune disease affecting approximately 1% of the population. Research suggests that CD impacts executive functioning (EF) and social phobia (SP). However, most of the literature in this area focuses on age groups outside of the traditional college

age range and has never measured EF and SP together. This descriptive study compared traditional age female college students with CD to age- and sex-matched college students without CD on measures of EF and SP. Participants completed the Behavior Rating Inventory of Executive Function-Adult version (BRIEF-A), the Social Anxiety Questionnaire for Adults-Short Form (SAQ-A30), and a demographic questionnaire. Results indicated that participants with CD reported lower grade point averages; scored lower on BRIEF-A measures of working memory, planning/organization, and organization of materials; and scored higher on SAQ-A30 measures involving interactions with the opposite sex and strangers. Implications for nursing practice are discussed. [Journal of Psychosocial Nursing and Mental Health Services, 57(2), 25-34.].

DOI: 10.3928/02793695-20180924-01
PMID: 30272808

103. J Mol Diagn. 2019 Jan;21(1):111-122. doi: 10.1016/j.jmoldx.2018.08.006. Epub 2018 Sep 28.

A Single-Tube, EuroClonality-Inspired, TRG Clonality Multiplex PCR Aids Management of Patients with Enteropathic Diseases, including from Formaldehyde-Fixed, Paraffin-Embedded Tissues.

Derrieux C(1), Trinquand A(2), Bruneau J(3), Verkarre V(4), Lhermitte L(5), Alcantara M(1), Villarese P(1), Meresse B(6), Sibon D(7), Hermine O(8), Brousse N(3), Molina T(9), Cellier C(10), Cerf-Bensussan N(11), Malamut G(10), Macintyre E(12).

Author information:
(1)Hematology Laboratory, Necker-Enfants Malades Hosptial and Paris Descartes, Sorbonne Paris Cité University, Paris, France; Hematology Laboratory, Hôpital Necker-Enfants Malades, Assistance Publique des Hôpitaux de Paris, Paris, France; INSERM UMR1151 and Institut Necker-Enfants Malades, Paris, France.
(2)Hematology Laboratory, Necker-Enfants Malades Hosptial and Paris Descartes, Sorbonne Paris Cité University, Paris, France; Hematology Laboratory, Hôpital Necker-Enfants Malades, Assistance Publique des Hôpitaux de Paris, Paris, France; INSERM UMR1151 and Institut Necker-Enfants Malades, Paris, France; INSERM UMR1163 Laboratory of Intestinal Immunity, Imagine Institute, Paris, France; Centre national Expert des Lymphomes Associés à la maladie Coeliaque, Hôpital Necker-Enfants Malades, Assistance Publique des Hôpitaux de Paris, Paris, France.
(3)Hematology Laboratory, Necker-Enfants Malades Hosptial and Paris Descartes, Sorbonne Paris Cité University, Paris, France; Centre national Expert des Lymphomes Associés à la maladie Coeliaque, Hôpital Necker-Enfants Malades, Assistance Publique des Hôpitaux de Paris, Paris, France; Department of Pathology, Hôpital Necker-Enfants Malades, Assistance Publique des Hôpitaux de Paris, Paris, France.
(4)Hematology Laboratory, Necker-Enfants Malades Hosptial and Paris Descartes, Sorbonne Paris Cité University, Paris, France; Department of Pathology, Hôpital Européen Georges Pompidou, Assistance Publique des Hôpitaux de Paris, Paris, France.
(5)Hematology Laboratory, Necker-Enfants Malades Hosptial and Paris Descartes, Sorbonne Paris Cité University, Paris, France; Hematology Laboratory, Hôpital Necker-Enfants Malades, Assistance Publique des Hôpitaux de Paris, Paris, France; INSERM UMR1151 and Institut Necker-Enfants Malades, Paris, France; Centre national Expert des Lymphomes Associés à la maladie Coeliaque, Hôpital

Necker-Enfants Malades, Assistance Publique des Hôpitaux de Paris, Paris, France.
(6)Hematology Laboratory, Necker-Enfants Malades Hosptial and Paris Descartes, Sorbonne Paris Cité University, Paris, France; INSERM UMR1163 Laboratory of Intestinal Immunity, Imagine Institute, Paris, France; INSERM UMR995, Lille Inflammation Research International Center (LIRIC), Lille, France.
(7)Hematology Laboratory, Necker-Enfants Malades Hosptial and Paris Descartes, Sorbonne Paris Cité University, Paris, France; INSERM UMR1151 and Institut Necker-Enfants Malades, Paris, France; Department of Clinical Hematology, Hôpital Necker-Enfants Malades, Assistance Publique des Hôpitaux de Paris, Paris, France.
(8)Hematology Laboratory, Necker-Enfants Malades Hosptial and Paris Descartes, Sorbonne Paris Cité University, Paris, France; Department of Clinical Hematology, Hôpital Necker-Enfants Malades, Assistance Publique des Hôpitaux de Paris, Paris, France; INSERM UMR1163, CNRS ERL 8254, Imagine Institute, Paris, France.
(9)Hematology Laboratory, Necker-Enfants Malades Hosptial and Paris Descartes, Sorbonne Paris Cité University, Paris, France; Department of Pathology, Hôpital Necker-Enfants Malades, Assistance Publique des Hôpitaux de Paris, Paris, France.
(10)Hematology Laboratory, Necker-Enfants Malades Hosptial and Paris Descartes, Sorbonne Paris Cité University, Paris, France; Centre national Expert des Lymphomes Associés à la maladie Coeliaque, Hôpital Necker-Enfants Malades, Assistance Publique des Hôpitaux de Paris, Paris, France; Department of Gastroenterology, Hôpital Européen Georges Pompidou, Assistance Publique des Hôpitaux de Paris, Paris, France.
(11)Hematology Laboratory, Necker-Enfants Malades Hosptial and Paris Descartes, Sorbonne Paris Cité University, Paris, France; INSERM UMR1163 Laboratory of Intestinal Immunity, Imagine Institute, Paris, France; Centre national Expert des Lymphomes Associés à la maladie Coeliaque, Hôpital Necker-Enfants Malades, Assistance Publique des Hôpitaux de Paris, Paris, France.
(12)Hematology Laboratory, Necker-Enfants Malades Hosptial and Paris Descartes, Sorbonne Paris Cité University, Paris, France; Hematology Laboratory, Hôpital Necker-Enfants Malades, Assistance Publique des Hôpitaux de Paris, Paris, France; INSERM UMR1151 and Institut Necker-Enfants Malades, Paris, France; Centre national Expert des Lymphomes Associés à la maladie Coeliaque, Hôpital Necker-Enfants Malades, Assistance Publique des Hôpitaux de Paris, Paris, France.
Electronic address: elizabeth.macintyre@aphp.fr.

Celiac disease is a chronic inflammation of the small intestine with villous atrophy that can become refractory to a gluten-free diet. Two categories of refractory celiac disease can be distinguished by the phenotype of intraepithelial lymphocytes and the status of TRG genes. Their distinction is important because 30% to 50% of type II but only 0% to 14% of type I evolve to an aggressive enteropathy-associated T-cell lymphoma and therefore require intensive treatment. Currently, differential diagnosis integrates immunohistochemistry, immunophenotyping, and TRG clonality analyses, but each has limitations. A single-tube multiplex TRG PCR (ECN) was prospectively compared to an in-house two-tube TRG PCR (N2T) in 73 samples, including 67 cryopreserved intestine tissues. Thirteen formalin-fixed, paraffin-embedded (FFPE) samples were also analyzed retrospectively. The ECN PCR had comparable efficiency to detect major clonal rearrangements in highly infiltrated tissues from T-cell lymphoproliferative disorders and type II refractory celiac disease and to detect the persistence of minor clones in type II refractory celiac disease follow-up samples. The ECN PCR abolished the risk of amplification of false-positive weak clonal rearrangements in cryopreserved specimens and allowed improved detection of clonal rearrangements in DNA from FFPE samples. The ECN PCR allows robust assessment of cryopreserved and FFPE digestive tissues at diagnosis and follow-up of enteropathies with villous atrophy, thus guiding therapeutic management.

DOI: 10.1016/j.jmoldx.2018.08.006
PMID: 30268943

104. J Pediatr Gastroenterol Nutr. 2019 Jan;68(1):e18-e19. doi: 10.1097/MPG.0000000000002160.

Undisclosed Gluten in Pediatric Multivitamins May Impact Response to a Gluten-free Diet.

Clarke L(1), Corinaldi M, Borum M.

Author information:
(1)Division of Gastroenterology & Liver Diseases, George Washington University School of Medicine & Health Sciences, Washington, DC.

DOI: 10.1097/MPG.0000000000002160
PMID: 30247427

105. J Pediatr Gastroenterol Nutr. 2019 Feb;68(2):251-255. doi: 10.1097/MPG.0000000000002158.

Red Spot Lesions in the Duodenal Bulb Are a Highly Specific Endoscopic Sign of Celiac Disease: A Prospective Study.

Silvester JA(1)(2), Faucher EA(3), McCarty CE(4), Kalansky A(5), Hintze ZJ(1), Mitchell PD(6), Goldsmith JD(7), Weir DC(1), Leichtner AM(1).

Author information:
(1)Division of Gastroenterology and Nutrition, Boston Children's Hospital, Boston, MA.
(2)University of Manitoba, Winnipeg, MB.
(3)University of South Carolina College of Medicine Greenville, Greenville, SC.
(4)Emory University, Atlanta, GA.
(5)Department of Internal Medicine, The Jewish Hospital of Cincinnati, Cincinnati, OH.
(6)Institutional Centers for Clinical and Translational Research.
(7)Department of Pathology, Boston Children's Hospital, Boston, MA.

We have recognized red spot lesions (RSLs) in the duodenal bulb in children with celiac disease (CD) and believe they may represent an underappreciated and distinct endoscopic sign of CD. A total of 171 pediatric patients undergoing esophagogastroduodenoscopy with duodenal biopsy for symptoms consistent with CD were prospectively recruited. There were 75 patients who met criteria for CD and the remaining 96 patients served as symptomatic controls. As compared to endoscopic markers frequently mentioned in literature, RSLs had comparable sensitivity, specificity, positive predictive value, and negative predictive value of 31%, 94%, 80%, and 64%, respectively. If RSLs are noted during endoscopy in a patient with gastrointestinal symptoms that might be the result of CD, then sufficient duodenal biopsies to make the diagnosis of CD should be obtained.

DOI: 10.1097/MPG.0000000000002158
PMCID: PMC6344298 [Available on 2020-02-01]
PMID: 30247425

106. Int J Cardiol. 2019 Jan 1;274:283-289. doi: 10.1016/j.ijcard.2018.09.008. Epub 2018 Sep 7.

Left ventricular remodeling in patients with acute type B aortic dissection after thoracic endovascular aortic repair: Short- and mid-term outcomes.

Du Y(1), Aizezi M(2), Lin H(1), Xie X(3), He J(4), Qi B(4), Zhang W(1), Naibi A(2), Guo S(2), Guo Y(2), Liu J(2), Zhang Z(2), Tang H(2), Yang X(5).

Author information:
(1)Center of Vascular Surgery, Fuwai Hospital, State Key Laboratory of Cardiovascular Disease, National Center for Cardiovascular Disease, Chinese Academy of Medical Sciences and Peking Union Medical College, Beijing, China.
(2)Department of Cardiac Surgery, People's Hospital of Xinjiang Uygur Autonomous Region, Urumqi, China.
(3)No. 2 Department of Respiratory Internal Medicine, People's Hospital of Xinjiang Uygur Autonomous Region, Urumqi, China.
(4)Department of Ultrasound, People's Hospital of Xinjiang Uygur Autonomous Region, Urumqi, China.
(5)Department of Cardiac Surgery, Beijing Anzhen Hospital, Capital Medical University, Beijing Institute of Heart, Lung and Blood Vessel Disease, Beijing, China. Electronic address: xiubinyang@yahoo.com.

BACKGROUND: Left ventricular (LV) remodeling remains unknown in patients with acute Type B aortic dissection (aTBAD) after thoracic endovascular aortic repair (TEVAR) during follow-up.
METHODS: Between May 2004 and January 2016, 163 consecutive patients (136 males, mean preoperative age: 51.06 ± 10.79 years) with aTBAD underwent TEVAR. A linear mixed model was used to evaluate risk factor influencing on LV remodeling and investigate longitudinal changes in LV thickness, diameter, volume, function and mass at preoperation, postoperation, short- and mid-term follow-up.
RESULTS: Median follow-up time was 48.0 months (quartiles 1-3, 31-84 months, maximum 147 months). LV thickness and mass followed a continuous downward trend over time. Interventricular septal thickness at end-diastole significantly decreased at mid-term follow-up (time, $p < 0.001$: preoperative 11.59 ± 0.14 mm vs mid-term 10.82 ± 0.15 mm, $p < 0.001$; postoperative 11.40 ± 0.14 mm vs mid-term 10.82 ± 0.15 mm, $p = 0.006$). LV posterior wall thickness at end-diastole was markedly reduced at mid-term follow-up (time, $p < 0.001$: preoperative 10.89 ± 0.11 mm vs mid-term 10.02 ± 0.11 mm, $p < 0.001$; postoperative 10.78 ± 0.13 mm vs mid-term 10.02 ± 0.11 mm, $p < 0.001$; short-term 10.56 ± 0.15 mm vs mid-term 10.02 ± 0.11 mm, $p = 0.021$). LV mass index markedly decreased during follow-up (time, $p = 0.001$: preoperative 129.60 ± 3.55 g/m2 vs short-term 119.26 ± 3.19 g/m2, $p = 0.009$; preoperative 129.60 ± 3.55 g/m2 vs mid-term 115.79 ± 3.62 g/m2, $p = 0.003$). LV function was improved, but not significantly so, during follow-up. Strict blood pressure control had no influence on LV remodeling. True lumen followed a continuous enlargement trend in terms of proximal thoracic aorta and celiac trunk level during follow-up.
CONCLUSIONS: TEVAR can reverse LV remodeling and LV hypertrophy in patients with aTBAD during follow-up.

DOI: 10.1016/j.ijcard.2018.09.008
PMID: 30243838

107. J Gastrointest Surg. 2019 Jan;23(1):112-121. doi: 10.1007/s11605-018-3966-8. Epub 2018 Sep 21.

Outcome of Patients with Borderline Resectable Pancreatic Cancer in the Contemporary Era of Neoadjuvant Chemotherapy.

Javed AA(1)(2), Wright MJ(1)(2), Siddique A(1)(2), Blair AB(1)(2), Ding D(2)(3), Burkhart RA(1)(2), Makary M(1)(2), Cameron JL(1)(2), Narang A(2)(4), Herman J(2)(4), Zheng L(2)(3), Laheru D(2)(3), Weiss MJ(1)(2), Wolfgang C(1)(2), He J(5)(6).

Author information:
(1)Department of Surgery, The Johns Hopkins University School of Medicine, 600 N. Wolfe Street, Halsted 614, Baltimore, MD, 21287, USA.
(2)The Pancreatic Cancer Precision Medicine Center of Excellence Program, The Johns Hopkins University School of Medicine, Baltimore, MD, USA.
(3)Department of Oncology, The Johns Hopkins University School of Medicine, Baltimore, MD, USA.
(4)Department of Radiation Oncology, The Johns Hopkins University School of Medicine, Baltimore, MD, USA.
(5)Department of Surgery, The Johns Hopkins University School of Medicine, 600 N. Wolfe Street, Halsted 614, Baltimore, MD, 21287, USA. jhe11@jhmi.edu.
(6)The Pancreatic Cancer Precision Medicine Center of Excellence Program, The Johns Hopkins University School of Medicine, Baltimore, MD, USA. jhe11@jhmi.edu.

INTRODUCTION: Approximately, 20% of patients with pancreatic ductal adenocarcinoma have resectable disease at diagnosis. Given improvements in locoregional and systemic therapies, some patients with borderline resectable pancreatic cancer (BRPC) can now undergo successful resection. The outcomes of patients with BRPC after neoadjuvant therapy remain unclear.
METHODS: A prospectively maintained single-institution database was utilized to identify patients with BRPC who were managed at the Johns Hopkins Pancreas Multidisciplinary Clinic (PMDC) between 2013 and 2016. BRPC was defined as any tumor that presented with radiographic evidence of the involvement of the portal vein (PV) or superior mesenteric vein (SMV) that was deemed to be technically resectable (with or without the need for reconstruction), or the abutment (< 180° involvement) of the common hepatic artery (CHA) or superior mesenteric artery (SMA), in the absence of involvement of the celiac axis (CA). We collected data on treatment, the course of the disease, resection rate, and survival.
RESULTS: Of the 866 patients evaluated at the PMDC during the study period, 151 (17.5%) were staged as BRPC. Ninety-six patients (63.6%) underwent resection. Neoadjuvant chemotherapy was administered to 142 patients (94.0%), while 78 patients (51.7%) received radiation therapy in the neoadjuvant setting. The median overall survival from the date of diagnosis, of resected BRPC patients, was 28.8 months compared to 14.5 months in those who did not ($p < 0.001$). Factors associated with increased chance of surgical resection included lower ECOG performance status ($p = 0.011$) and neck location of the tumor ($p = 0.001$). Forty-seven patients with BRPC (31.1%) demonstrated progression of disease; surgical resection was attempted and aborted in 12 patients (7.9%). Eight patients (5.3%) were unable to tolerate chemotherapy; six had disease progression and two did not want to pursue surgery. Lastly, four patients (3.3%) were conditionally unresectable due to medical comorbidities at the time of diagnosis due to comorbidities and failed to improve their status and subsequently had progression of the disease.
CONCLUSION: After initial management, 31.1% of patients with BRPC have progression of disease, while 63.6% of all patients successfully undergo

resection, which was associated with improved survival. Factors associated with increased likelihood of surgical resection include lower ECOG performance status and tumor location in the neck.

DOI: 10.1007/s11605-018-3966-8
PMCID: PMC6329638
PMID: 30242644

108. Food Chem. 2019 Jan 15;271:193-203. doi: 10.1016/j.foodchem.2018.07.189. Epub 2018 Jul 26.

Rheological and quality characteristics of composite gluten-free dough and biscuits supplemented with fermented and unfermented Agaricus bisporus polysaccharide flour.

Sulieman AA(1), Zhu KX(2), Peng W(2), Hassan HA(3), Obadi M(2), Siddeeg A(4), Zhou HM(5).

Author information:
(1)State Key Laboratory of Food Science and Technology, School of Food Science and Technology, Jiangnan University, Wuxi, PR China; Department of Cereal Science and Technology, National Food Research Center, Ministry of Agriculture and Forestry, Khartoum North, P.O. Box. 213, Sudan. Electronic address: lotfiabba@yahoo.com.
(2)State Key Laboratory of Food Science and Technology, School of Food Science and Technology, Jiangnan University, Wuxi, PR China.
(3)Department of Cereal Science and Technology, National Food Research Center, Ministry of Agriculture and Forestry, Khartoum North, P.O. Box. 213, Sudan.
(4)Department of Food Science and Technology, Faculty of Engineering and Technology, University of Gezira, Wad Medani, P.O. Box 20, Sudan.
(5)State Key Laboratory of Food Science and Technology, School of Food Science and Technology, Jiangnan University, Wuxi, PR China. Electronic address: hmzhou@jiangnan.edu.cn.

In this study, functional, rheological and physicochemical characteristics were carried out for composite gluten-free (CGF) flours, dough and biscuits, respectively fortified with fermented and unfermented Agaricus bisporus polysaccharide (FABP and UABP) flours. Addition of both FABP flour and UABP flour improved functional properties, while addition of FABP flour decreased viscosity property. Incorporation of both polysaccharide flours in CGF biscuit dough revealed a significant increase in rheological moduli (G' and G″) and a decrease in tan (δ). Supplementation of UABP flour increased thickness, whereas supplementation of FABP flour increased diameter and spread ratio. All CGF biscuit formulations exhibited lower fracture strength and hardness compared to the control. Furthermore, both UABP flour and FABP flour formulation (F3) contained the highest nutrients in terms of protein, dietary fibers, amino acids and minerals among the CGF biscuit formulations. The sensory evaluation result showed that FABP flour formulation (F1) and UABP flour F1 were most acceptable.

DOI: 10.1016/j.foodchem.2018.07.189
PMID: 30236667

109. Food Chem. 2019 Jan 15;271:157-164. doi: 10.1016/j.foodchem.2018.07.176. Epub

2018 Jul 26.

Gluten-free flours from cereals, pseudocereals and legumes: Phenolic fingerprints and in vitro antioxidant properties.

Rocchetti G(1), Lucini L(2), Rodriguez JML(3), Barba FJ(4), Giuberti G(5).

Author information:
(1)Department of Animal Science, Food and Nutrition, Università Cattolica del Sacro Cuore, Via Emilia Parmense 84, 29122 Piacenza, Italy.
(2)Department for Sustainable Food Process, Università Cattolica del Sacro Cuore, Via Emilia Parmense 84, 29122 Piacenza, Italy. Electronic address: luigi.lucini@unicatt.it.
(3)Centro Tecnológico de la Carne de Galicia, Adva. Galicia 4, Parque Tecnológico de Galicia, San Cibrao das Viñas, 32900 Ourense, Spain.
(4)Nutrition and Food Science Area, Preventive Medicine and Public Health, Food Sciences, Toxicology and Forensic Medicine Department, Faculty of Pharmacy, Universitat de València, Avda. Vicent Andrés Estellés, s/n, 46100 Burjassot, València, Spain.
(5)Department for Sustainable Food Process, Università Cattolica del Sacro Cuore, Via Emilia Parmense 84, 29122 Piacenza, Italy.

The interest in gluten-free (GF) products increases together with the increase in gluten-sensitive people. However, GF foods might have decreased nutritional quality as compared to the gluten containing counterparts. In this work, an investigation of the phenolic and antioxidant profile in 18 GF flours belonging to legumes, cereals and pseudocereals was achieved. Significant differences could be observed across samples. Total phenolic content was highest in violet rice flours, whereas total anthocyanins were highest in violet, nerone, and black rice flours. FRAP and ORAC antioxidant activities were correlated to phenolic contents and found to be higher in violet rice flours. Metabolomics highlighted a wide diversity in phenolics, with flavonoids (197 compounds ascribable to anthocyanins, flavones, flavanones, isoflavonoids, flavonols, and flavanols), phenolic acids (74 compounds belonging to hydroxycinnamics, hydroxybenzoics, and hydroxyphenylacetics), and tyrosol derivatives the most represented. Finally, OPLS-DA multivariate statistics outlined flavonoids, furofurans and phenolic acids as the most discriminant phenolics.

DOI: 10.1016/j.foodchem.2018.07.176
PMID: 30236661

110. Appetite. 2019 Jan 1;132:55-66. doi: 10.1016/j.appet.2018.09.012. Epub 2018 Sep 15.

Too picky for my taste? The effect of the gluten-free dietary restriction on impressions of romantic partners.

Aloni M(1), Geers AL(2), Coleman M(3), Milano K(4).

Author information:
(1)Western Connecticut State University, Psychology Department, 181 White St., Danbury, CT, 06810, USA. Electronic address: alonim@wcsu.edu.
(2)University of Toledo, Psychology Department, 2801 West Bancroft Street, Toledo, OH, 43606, USA. Electronic address: andrew.geers@utoledo.edu.

(3)Western Connecticut State University, Psychology Department, 181 White St., Danbury, CT, 06810, USA. Electronic address: msc234@sbcglobal.net.
(4)Western Connecticut State University, Psychology Department, 181 White St., Danbury, CT, 06810, USA. Electronic address: milanok91@gmail.com.

Millions of individuals world-wide adhere to a gluten-free diet and this dietary trend is on the rise. The present research identified a consumption stereotype of those following a gluten-free diet and tested whether this stereotype influenced impressions and interest in a potential romantic partner. We also assessed whether being gluten-free differentially impacted impressions of males compared to females. In Study 1, participants (N = 161) responded to a survey containing both qualitative and quantitative components in which they evaluated gluten-free individuals and indicated their interest in dating them. In Study 2 (N = 132), we manipulated the dietary restriction (gluten-free vs. no dietary restriction) of a target within the context of a mock online dating paradigm and measured participants' evaluations of the target. In both studies, gluten-free individuals were perceived as having positive and negative attributes such as being high-maintenance, picky, demanding, complaining and judgmental, yet healthy, self-disciplined, understanding and energetic. The gluten-free diet was associated with ratings of femininity and lead to more negative judgments of males than females. Whereas in Study 1 participants expressed some hesitation about dating a gluten-free individual, no effects on romantic interest were obtained in Study 2. These data are the first to delineate the gluten-free stereotype and provide a useful platform for future study.

DOI: 10.1016/j.appet.2018.09.012
PMID: 30227183

111. Gastroenterology. 2019 Jan;156(1):e1-e2. doi: 10.1053/j.gastro.2018.08.049. Epub 2018 Sep 7.

Is It a Refractory Celiac Disease?

Ma MJ(1), Li Z(1), Li YQ(1).

Author information:
(1)Department of Gastroenterology, and Laboratory of Translational Gastroenterology, Qilu Hospital of Shandong University, Jinan, Shandong, China.

DOI: 10.1053/j.gastro.2018.08.049
PMID: 30201353 [Indexed for MEDLINE]

112. Am J Gastroenterol. 2019 Jan;114(1):127-134. doi: 10.1038/s41395-018-0267-5.

Dietary Gluten Intake and Risk of Microscopic Colitis Among US Women without Celiac Disease: A Prospective Cohort Study.

Liu PH(1), Lebwohl B(2)(3), Burke KE(1)(4)(5), Ivey KL(6)(7)(8), Ananthakrishnan AN(1)(4)(5), Lochhead P(1)(4)(5), Olen O(9), Ludvigsson JF(10)(11), Richter JM(4), Chan AT(1)(4)(6)(12)(13)(14), Khalili H(1)(4)(5)(9).

Author information:
(1)Clinical and Translational Epidemiology Unit, Massachusetts General Hospital

and Harvard Medical School, Boston, MA, USA.
(2)Celiac Disease Center, Department of Medicine, Columbia University College of Physicians and Surgeons, New York, NY, USA.
(3)Department of Epidemiology, Mailman School of Public Health, Columbia University, New York, NY, USA.
(4)Division of Gastroenterology, Massachusetts General Hospital and Harvard Medical School, Boston, MA, USA.
(5)Harvard Medical School, Boston, MA, USA.
(6)Department of Epidemiology, Harvard T.H. Chan School of Public Health, Boston, MA, USA.
(7)Department of Nutrition, Harvard T.H. Chan School of Public Health, Boston, MA, USA.
(8)South Australian Health and Medical Research Institute, Infection and Immunity Theme, School of Medicine, Flinders University, Adelaide, SA, Australia.
(9)Department of Medicine, Clinical Epidemiology Unit, Karolinska Institutet, Stockholm, Sweden.
(10)Department of Medical Epidemiology and Biostatistics, Karolinska Institutet, Stockholm, Sweden.
(11)Department of Pediatrics, Örebro University Hospital, Örebro University, Örebro, Sweden.
(12)Broad Institute of MIT and Harvard, Cambridge, MA, USA.
(13)Department of Immunology and Infectious Diseases, Harvard T.H. Chan School of Public Health, Boston, MA, USA.
(14)Channing Division of Network Medicine, Department of Medicine, Brigham and Women's Hospital and Harvard Medical School, Boston, MA, USA.

OBJECTIVE: Microscopic colitis is a common cause of chronic watery diarrhea among the elderly. Although the prevalence of celiac disease appears to be higher in patients with microscopic colitis, the relationship between dietary gluten intake and risk of microscopic colitis among individuals without celiac disease has not been explored.
METHODS: We conducted a prospective study of 160,744 US women without celiac disease enrolled in the Nurses' Health Study (NHS) and the NHSII. Dietary gluten intake was estimated using validated food frequency questionnaires every 4 years. Microscopic colitis was confirmed through medical records review. We used Cox proportional hazard modeling to estimate the multivariable-adjusted hazard ratio (HR) and 95% confidence interval (CI).
RESULTS: We documented 219 incident cases of microscopic colitis over more than 20 years of follow-up encompassing 3,716,718 person-years (crude incidence rate: 5.9/100,000 person-years) in NHS and NHSII. Dietary gluten intake was not associated with risk of microscopic colitis (Ptrend = 0.88). Compared to individuals in the lowest quintile of energy-adjusted gluten intake, the adjusted HR of microscopic colitis was 1.18 (95% CI: 0.77-1.78) for the middle quintile and 1.03 (95% CI: 0.67-1.58) for the highest quintile. Additional adjustment for primary dietary sources of gluten including refined and whole grains did not materially alter the effect estimates (All Ptrend ≥ 0.69). The null association did not differ according to lymphocytic or collagenous subtypes (Pheterogeneity = 0.72) and was not modified by age, smoking status, or body mass index (All Pinteraction ≥ 0.17).
CONCLUSIONS: Dietary gluten intake during adulthood was not associated with risk of microscopic colitis among women without celiac disease.

DOI: 10.1038/s41395-018-0267-5
PMCID: PMC6329641 [Available on 2020-01-01]
PMID: 30181535

113. Funct Integr Genomics. 2019 Jan;19(1):123-136. doi: 10.1007/s10142-018-0632-x. Epub 2018 Aug 29.

Development of wheat genotypes expressing a glutamine-specific endoprotease from barley and a prolyl endopeptidase from Flavobacterium meningosepticum or Pyrococcus furiosus as a potential remedy to celiac disease.

Osorio CE(1)(2), Wen N(1), Mejias JH(1)(3), Liu B(4), Reinbothe S(5), von Wettstein D(1), Rustgi S(6)(7).

Author information:
(1)Department of Crop and Soil Sciences, Washington State University, Pullman, WA, 99164, USA.
(2)Centro de Genómica Nutricional Agro-acuícola, CGNA, Las Heras 350, Temuco, Chile.
(3)Instituto de Investigaciones Agropecuarias (INIA), Centro Regional de Investigación Carillanca, P.O. Box 58-D, Temuco, Chile.
(4)Key Laboratory of Molecular Epigenetics of MOE and Institute of Genetics & Cytology, Northeast Normal University, Changchun, 130024, China.
(5)Laboratoire de Génétique Moléculaire des Plantes et Biologie Environnementale et Systemique (BEeSy), LBFA, Université Grenoble-Alpes, BP53, F-38041, Grenoble cedex 9, France.
(6)Department of Crop and Soil Sciences, Washington State University, Pullman, WA, 99164, USA. srustgi@clemson.edu.
(7)Clemson University Pee Dee Research and Education Center, Florence, SC, 29506, USA. srustgi@clemson.edu.

Ubiquitous nature of prolamin proteins dubbed gluten from wheat and allied cereals imposes a major challenge in the treatment of celiac disease, an autoimmune disorder with no known treatment other than abstinence diet. Administration of hydrolytic glutenases as food supplement is an alternative to deliver the therapeutic agents directly to the small intestine, where sensitization of immune system and downstream reactions take place. The aim of the present research was to evaluate the capacity of wheat grain to express and store hydrolytic enzymes capable of gluten detoxification. For this purpose, wheat scutellar calli were biolistically transformed to generate plants expressing a combination of glutenase genes for prolamin detoxification. Digestion of prolamins with barley endoprotease B2 (EP-HvB2) combined with Flavobacterium meningosepticum prolyl endopeptidase (PE-FmPep) or Pyrococcus furiosus prolyl endopeptidase (PE-PfuPep) significantly reduced (up to 67%) the amount of the indigestible gluten peptides of all prolamin families tested. Seven of the 168 generated lines showed inheritance of transgene to the T2 generation. Reversed phase high-performance liquid chromatography of gluten extracts under simulated gastrointestinal conditions allowed the identification of five T2 lines that contained significantly reduced amounts of immunogenic, celiac disease-provoking gliadin peptides. These findings were complemented by the R5 ELISA test results where up to 72% reduction was observed in the content of immunogenic peptides. The developed wheat genotypes open new horizons for treating celiac disease by an intraluminal enzyme therapy without compromising their agronomical performance.

DOI: 10.1007/s10142-018-0632-x
PMCID: PMC6311431 [Available on 2020-01-01]
PMID: 30159724

114. Dig Dis. 2019;37(1):45-52. doi: 10.1159/000492569. Epub 2018 Aug 28.

Gastrointestinal Manifestations in Children with Primary Immunodeficiencies: Single Center: 12 Years Experience.

Akkelle BS(1), Tutar E(1), Volkan B(1), Sengul OK(1), Ozen A(2), Celikel CA(3), Ertem D(4).

Author information:
(1)Division of Pediatric Gastroenterology, Hepatology and Nutrition, Marmara University School of Medicine, Istanbul, Turkey.
(2)Division of Pediatric Allergy and Immunology, Marmara University School of Medicine, Istanbul, Turkey.
(3)Department of Pathology, Marmara University School of Medicine, Istanbul, Turkey.
(4)Division of Pediatric Gastroenterology, Hepatology and Nutrition, Marmara University School of Medicine, Istanbul, Turkeydenizertem@marmara.edu.tr.

BACKGROUND: It has been reported that 5-50% of patients with primary immune deficiencies (PID) may present with or develop gastrointestinal (GI) manifestations.
OBJECTIVE: This study was aimed at analyzing GI and related endoscopic, histopathological findings in children with PID.
METHODS: Children with PID who were evaluated by endoscopy between 2005 and 2016 were enrolled in this study. Demographic data, growth parameters, signs and symptoms at diagnosis were obtained.
RESULTS: Of 425 children with PID, 195 had GI manifestations. Forty-seven of 195 children required endoscopic investigation, 30 (63.8%) were male, and the mean age was 7.7 ± 5 years. The rate of consanguinity was 61.7%, and the most common symptom was chronic diarrhea (57.4%). Seventy-two percent of the patients were malnourished. Giardia intestinalis was detected in 4, and Helicobacter pylori was confirmed in 8/45 (17.7%) patients. Non-celiac villous flatting was discovered in 15.5% of patients. Twelve patients were diagnosed as having immunodeficiency associated inflammatory bowel disease (IBD)-like colitis.
CONCLUSIONS: PID may present with GI manifestations or develop during the course of the disease. Investigating immunodeficiency in patients with atypical GI symptoms can provide an appropriate therapeutic option, and an improved quality of life, particularly in populations with a high rate of consanguinity.

DOI: 10.1159/000492569
PMID: 30153682 [Indexed for MEDLINE]

115. J Clin Endocrinol Metab. 2019 Feb 1;104(2):241-249. doi: 10.1210/jc.2018-00723.

Algorithms to Define Abnormal Growth in Children: External Validation and Head-To-Head Comparison.

Scherdel P(1)(2), Matczak S(3), Léger J(4), Martinez-Vinson C(5), Goulet O(6), Brauner R(7), Nicklaus S(8), Resche-Rigon M(9), Chalumeau M(2)(3), Heude B(1).

Author information:
(1)INSERM, UMR1153 Epidemiology and Biostatistics Sorbonne Paris Cité Center, Early Origins of the Child's Health and Development Team, Paris Descartes University, Villejuif, France.
(2)INSERM, UMR1153 Epidemiology and Biostatistics Sorbonne Paris Cité Center,

Obstetrical, Perinatal, and Pediatric Epidemiology Research Team, Paris Descartes University, Paris, France.
(3)Department of General Pediatrics, Necker-Enfants Malades Hospital, Assistance Publique-Hôpitaux de Paris, Paris Descartes University, Paris, France.
(4)Department of Pediatric Endocrinology and Diabetology, Robert-Debré Hospital, Assistance Publique-Hôpitaux de Paris, Paris Diderot University, Reference Centre for Endocrine Growth and Development Diseases, Paris, France.
(5)Department of Pediatric Gastroenterology and Nutrition, Robert-Debré Hospital, Assistance Publique-Hôpitaux de Paris, Paris-Diderot University, Paris, France.
(6)Department of Pediatric Gastroenterology-Hepatology and Nutrition, Necker-Enfants Malades Hospital, Assistance Publique-Hôpitaux de Paris, Paris Descartes University, Paris, France.
(7)Unité d'Endocrinologie Pédiatrique, Fondation Ophtalmologique Adolphe de Rothschild, Paris Descartes University, Paris, France.
(8)Centre des Sciences du Goût et de l'Alimentation, AgroSupDijon Centre National de la Recherche Scientifique, Institut National de la Recherche Agronomique, Université Bourgogne Franche-Comté, Dijon, France.
(9)INSERM, UMR1153 Epidemiology and Biostatistics Sorbonne Paris Cité Center, Epidémiologie Clinique, Statistique, pour la Recherche en Santé, Service de Biostatistique et Information Médicale, Saint-Louis Hospital, Paris Diderot University, Paris, France.

Background: Growth monitoring of apparently healthy children aims at early detection of serious conditions by use of both clinical expertise and algorithms that define abnormal growth. The seven existing algorithms provide contradictory definitions of growth abnormality and have a low level of validation.
Objective: An external validation study with head-to-head comparison of the seven algorithms combined with study of the impact of use of the World Health Organization (WHO) vs national growth charts on algorithm performance.
Design: With a case-referent approach, we retrospectively applied all algorithms to growth data for children with Turner syndrome, GH deficiency, or celiac disease (n = 341) as well as apparently healthy children (n = 3406). Sensitivity, specificity, and theoretical reduction in time to diagnosis for each algorithm were calculated for each condition by using the WHO or national growth charts.
Results: Among the two algorithms with high specificity (>98%), the Grote clinical decision rule had higher sensitivity than the Coventry consensus (4.6% to 54% vs 0% to 8.9%, $P < 0.05$) and offered better theoretical reduction in time to diagnosis (median: 0.0 to 0.9 years vs 0 years, $P < 0.05$). Sensitivity values were significantly higher with the WHO than national growth charts at the expense of specificity.
Conclusion: The Grote clinical decision rule had the best performance for early detection of the three studied diseases, but its limited potential for reducing time to diagnosis suggests the need for better-performing algorithms based on appropriate growth charts.

DOI: 10.1210/jc.2018-00723
PMID: 30137417

116. Biol Psychiatry. 2019 Jan 1;85(1):35-48. doi: 10.1016/j.biopsych.2018.06.016. Epub 2018 Jun 28.

Associations Between Non-neurological Autoimmune Disorders and Psychosis: A Meta-analysis.

Cullen AE(1), Holmes S(2), Pollak TA(2), Blackman G(2), Joyce DW(2), Kempton MJ(2), Murray RM(2), McGuire P(2), Mondelli V(3).

Author information:
(1)Department of Psychosis Studies, South London and Maudsley NHS Foundation Trust, Institute of Psychiatry, Psychology & Neuroscience, King's College London, London, United Kingdom; National Institute for Health Research Maudsley Mental Health Biomedical Research Centre, South London and Maudsley NHS Foundation Trust, Institute of Psychiatry, Psychology & Neuroscience, King's College London, London, United Kingdom. Electronic address: alexis.cullen@kcl.ac.uk.
(2)Department of Psychosis Studies, South London and Maudsley NHS Foundation Trust, Institute of Psychiatry, Psychology & Neuroscience, King's College London, London, United Kingdom; National Institute for Health Research Maudsley Mental Health Biomedical Research Centre, South London and Maudsley NHS Foundation Trust, Institute of Psychiatry, Psychology & Neuroscience, King's College London, London, United Kingdom.
(3)Department of Psychological Medicine, South London and Maudsley NHS Foundation Trust, Institute of Psychiatry, Psychology & Neuroscience, King's College London, London, United Kingdom; National Institute for Health Research Maudsley Mental Health Biomedical Research Centre, South London and Maudsley NHS Foundation Trust, Institute of Psychiatry, Psychology & Neuroscience, King's College London, London, United Kingdom.

BACKGROUND: A relationship between non-neurological autoimmune (NNAI) disorders and psychosis has been widely reported but not yet subjected to meta-analysis. We conducted the first meta-analysis examining the association between NNAI disorders and psychosis and investigated the effect of 1) temporality (as determined by study design), 2) psychiatric diagnosis, and 3) specific autoimmune disorders.
METHODS: Major databases were searched for articles published until April 2018; 31 studies, comprising data for >25 million individuals, were eligible. Using random-effects models, we examined the overall association between all NNAI disorders and psychosis; rheumatoid arthritis was examined separately given the well-established negative association with psychosis. Stratified analyses investigated the effect of temporality, psychiatric diagnosis, and specific NNAI disorders.
RESULTS: We observed a positive overall association between NNAI disorders and psychosis (odds ratio [OR] = 1.26; 95% confidence interval [CI], 1.12-1.41) that was consistent across study designs and psychiatric diagnoses; however, considerable heterogeneity was detected (I2 = 88.08). Patterns varied across individual NNAI disorders; associations were positive for pernicious anemia (OR = 1.91; 95% CI, 1.29-2.84), pemphigoid (OR = 1.90; 95% CI, 1.62-2.24), psoriasis (OR = 1.70; 95% CI, 1.51-1.91), celiac disease (OR = 1.53; 95% CI, 1.12-2.10), and Graves' disease (OR = 1.33; 95% CI, 1.03-1.72) and negative for ankylosing spondylitis (OR = 0.72; 95% CI, 0.54-0.98) and rheumatoid arthritis (OR = 0.65; 95% CI, 0.50-0.84).
CONCLUSIONS: While we observed a positive overall association between NNAI disorders and psychosis, this was not consistent across all NNAI disorders. Specific factors, including distinct inflammatory pathways, genetic influences, autoantibodies targeting brain proteins, and exposure to corticosteroid treatment, may therefore underlie this association.

DOI: 10.1016/j.biopsych.2018.06.016
PMCID: PMC6269125
PMID: 30122288

117. J Pediatr Gastroenterol Nutr. 2019 Jan;68(1):26-29. doi: 10.1097/MPG.0000000000002129.

Contribution of Oral Hygiene and Cosmetics on Contamination of Gluten-free Diet: Do Celiac Customers Need to Worry About?

Verma AK(1), Lionetti E(2), Gatti S(2), Franceschini E(2), Catassi GN(2), Catassi C(2)(3).

Author information:
(1)Celiac Disease Research Laboratory, Department of Pediatrics.
(2)Department of Pediatrics, Marche Polytechnic University, Ancona, Italy.
(3)The Division of Pediatric Gastroenterology and Nutrition and Center for Celiac Research, Mass General Hospital for Children, Boston, MA.

OBJECTIVES: The only available treatment for celiac disease (CD) is the gluten-free diet. It is unclear whether the presence of gluten in oral hygiene products and cosmetics that are applied on the mouth is a reason of concern for CD patients. The aim of this study was to test the level of gluten contamination in oral hygiene and cosmetic products available in the Italian market.
METHODS: A total of 66 products (toothpastes = 37; dental tablets = 2; mouthwashes = 5; lip-balms = 10; lipsticks = 12) labelled gluten-free or with unknown gluten content were randomly collected from different supermarkets and pharmacies. The gluten quantification was determined by the R5 ELISA method approved by EU regulations.
RESULTS: Out of 66 oral hygiene and cosmetics, 62 products (94%) were found to be gluten-free (gluten level <20 ppm), while 4 (6%) (toothpastes = 3; lipsticks = 1) showed a gluten level >20 ppm (toothpastes: 20.7, 31.4, and 35 ppm; lipstick: 27.4 ppm). None of the selected products had ingredient derived from wheat, barley, or rye.
CONCLUSIONS: Gluten contamination is currently not an issue in a wide array of cosmetic and oral hygiene products that are commonly in the market.

DOI: 10.1097/MPG.0000000000002129
PMID: 30119098

118. Endocr Metab Immune Disord Drug Targets. 2019;19(1):90-94. doi: 10.2174/1871530318666180817143536.

Anti-Saccharomyces Cerevisiae as Unusual Antibody in Autoimmune Polyglandular Syndrome Type III: A Case Report.

Gorgel A(1), Cankaya C(2), Tecellioglu M(3).

Author information:
(1)Department of Endocrinology and Metabolism, Gozde Akademi Hospital Malatya, Ankara asfaltı 6. Km No:219, 44110 Yesilyurt/ Malatya, Turkey.
(2)Department of Ophtalmology, Gozde Akademi Hospital Malatya, Ankara asfalti 6. Km No:219, 44110 Yesilyurt/ Malatya, Turkey.
(3)Department of Neurology, Gozde Akademi Hospital Malatya, Ankara asfalti 6. Km No:219, 44110 Yesilyurt/ Malatya, Turkey.

Backgraund and Objective: Anti-Saccharomyces Cerevisiae Antibodies (ASCA) that are considered to reflect immune response against increased intestinal permeability due to mucosal damage are among the serological markers of Crohn's

Disease.METHODS: This microbial seromarker was recently shown to be elevated in several autoimmune disorders such as celiac disease, autoimmune liver diseases, type 1 diabetes, and Graves' disease. Despite that fact, ASCA seropositivity in Autoimmune Polyglandular Syndrome (APS) has never been reported before.
RESULTS: Herein, we present a 46-year-old woman who has uveitis, autoimmune thyroiditis, and primary ovarian failure.
CONCLUSION: Based on the coexistence of these diseases, the patient was diagnosed with APS type III. Moreover, ASCA seropositivity was detected although she has no overt intestinal disease.

DOI: 10.2174/1871530318666180817143536
PMID: 30117403

119. J Sci Food Agric. 2019 Feb;99(3):1351-1357. doi: 10.1002/jsfa.9310. Epub 2018 Sep 28.

Gluten-free sorghum pasta: starch digestibility and antioxidant capacity compared with commercial products.

Palavecino PM(1)(2), Ribotta PD(1)(2)(3), León AE(1)(4), Bustos MC(1)(4).

Author information:
(1)CONICET-UNC, Instituto de Ciencia y Tecnología de Alimentos Córdoba (ICYTAC), Av. Filloy s/n, 5000, Córdoba, Argentina.
(2)Universidad Nacional de Córdoba, Facultad de Ciencias Exactas, Físicas y Naturales, Instituto de Ciencia y Tecnología de los Alimentos, Córdoba, Argentina.
(3)Universidad Nacional de Córdoba, Instituto Superior de Investigación, Desarrollo y Servicios en Alimentos, SECYT, Córdoba, Argentina.
(4)Universidad Nacional de Córdoba, Facultad de Ciencias Agropecuarias, Laboratorio de química biológica, Córdoba, Argentina.

BACKGROUND: The development of new products with a focus on nutrition, rather than other technical aspects, is essential to improve the quality of celiac diets. Nutritional attributes of white and brown sorghum gluten-free pasta developed in a previous work were analyzed. The extent and kinetics of starch in vitro digestion, estimated glycemic index (eGI), potentially bioaccessible and dialyzable polyphenols, and antioxidant activity were evaluated and compared with commercial products.
RESULTS: Sorghum flour samples were used to obtain pasta with high protein (≈170 g kg-1), dietary fiber (≈80 g kg-1), polyphenols (2.6 g GA kg-1 pasta), and antioxidant activity. This sorghum pasta showed slower starch in vitro digestion than the other gluten-free pasta, with a high level of protein hydrolysis (76%). The highest eGI was observed in a rice sample (69.8) followed by a corn-based pasta (66.4). White and brown sorghum gluten-free pasta showed 2.9 and 2.4 times, respectively, higher potentially bioaccessible polyphenol content compared to that in cooked pasta. No significant variation in antioxidant activity was found in sorghum pasta after digestion and around 48% and 36% of activity was detected in dialysate.
CONCLUSION: Both types of sorghum gluten-free pasta have demonstrated their nutritional value and represent a good potential alternative to current commercial pasta. © 2018 Society of Chemical Industry.

DOI: 10.1002/jsfa.9310
PMID: 30094850

120. J Gastroenterol Hepatol. 2019 Jan;34(1):74-83. doi: 10.1111/jgh.14403. Epub 2018 Aug 30.

Clinical, endoscopic, and histological differentiation between celiac disease and tropical sprue: A systematic review.

Sharma P(1), Baloda V(1), Gahlot GP(1), Singh A(2), Mehta R(1), Vishnubathla S(3), Kapoor K(3), Ahuja V, Gupta SD(1), Makharia GK(2), Das P(1).

Author information:
(1)Department of Pathology, All India Institute of Medical Sciences, New Delhi, India.
(2)Department of Gastroenterology and Human Nutritions, All India Institute of Medical Sciences, New Delhi, India.
(3)Department of Biostatistics, All India Institute of Medical Sciences, New Delhi, India.

BACKGROUND AND AIM: While the prevalence of celiac disease (CD) is increasing globally, the prevalence of tropical sprue (TS) is declining. Still, there are certain regions in the world where both patients with CD and TS exist and differentiation between them is a challenging task. We conducted a systematic review of the literature to find out differentiating clinical, endoscopic, and histological characteristics between CD and TS.
METHODS: Medline, PubMed, and EMBASE databases were searched for keywords: celiac disease, coeliac, celiac, tropical sprue, sprue, clinical presentation, endoscopy, and histology. Studies published between August 1960 and January 2018 were reviewed. Out of 1063 articles available, 12 articles were included in the final analysis.
RESULTS: Between the patients with CD and TS, there was no difference in the prevalence and duration of chronic diarrhea, abdominal distension, weight loss, extent of abnormal fecal fat content, and density of intestinal inflammation. The following features were more common in CD: short stature, vomiting/dyspepsia, endoscopic scalloping/attenuation of duodenal folds, histological high modified Marsh changes, crescendo type of IELosis, surface epithelial denudation, surface mucosal flattening, thickening of subepithelial basement membrane and celiac seropositivity; while those in TS include anemia, abnormal urinary D-xylose test, endoscopic either normal duodenal folds or mild attenuation, histologically decrescendo type of IELosis, low modified Marsh changes, patchy mucosal changes, and mucosal eosinophilia.
CONCLUSIONS: Both patients with CD and TS have overlapping clinical, endoscopic, and histological characteristics, and there is no single diagnostic feature for differentiating CD from TS except for celiac specific serological tests.

DOI: 10.1111/jgh.14403
PMID: 30069926

121. Dig Liver Dis. 2019 Jan;51(1):47-54. doi: 10.1016/j.dld.2018.06.020. Epub 2018

Jul 3.

Gliadin effect on the oxidative balance and DNA damage: An in-vitro, ex-vivo study.

Monguzzi E(1), Marabini L(2), Elli L(3), Vaira V(4), Ferrero S(5), Ferretti F(1), Branchi F(1), Gaudioso G(6), Scricciolo A(7), Lombardo V(7), Doneda L(8), Roncoroni L(9).

Author information:
(1)Gastroenterology and Endoscopy Unit - Center for Prevention and Diagnosis of Celiac Disease, IRCCS Ca's Granda Foundation "Ospedale Maggiore Policlinico", Milan, Italy; Department of Pathophysiology and Transplantation, Università degli Studi di Milano, Milan, Italy.
(2)Department of Pharmacological and Biomolecular Sciences, Università degli Studi di Milano, Italy.
(3)Gastroenterology and Endoscopy Unit - Center for Prevention and Diagnosis of Celiac Disease, IRCCS Ca's Granda Foundation "Ospedale Maggiore Policlinico", Milan, Italy. Electronic address: luca.elli@policlinico.mi.it.
(4)Division of Pathology, IRCCS Ca' Granda Foundation "Ospedale Maggiore Policlinico", Milan, Italy; Department of Pathophysiology and Transplantation, Università degli Studi di Milano, Milan, Italy.
(5)Division of Pathology, IRCCS Ca' Granda Foundation "Ospedale Maggiore Policlinico", Milan, Italy; Department of Biomedical, Surgical and Dental Sciences, Università degli Studi di Milano, Milan, Italy.
(6)Division of Pathology, IRCCS Ca' Granda Foundation "Ospedale Maggiore Policlinico", Milan, Italy.
(7)Gastroenterology and Endoscopy Unit - Center for Prevention and Diagnosis of Celiac Disease, IRCCS Ca's Granda Foundation "Ospedale Maggiore Policlinico", Milan, Italy.
(8)Department of Biomedical, Surgical and Dental Sciences, Università degli Studi di Milano, Milan, Italy.
(9)Gastroenterology and Endoscopy Unit - Center for Prevention and Diagnosis of Celiac Disease, IRCCS Ca's Granda Foundation "Ospedale Maggiore Policlinico", Milan, Italy; Department of Pathophysiology and Transplantation, Università degli Studi di Milano, Milan, Italy; Department of Biomedical, Surgical and Dental Sciences, Università degli Studi di Milano, Milan, Italy.

BACKGROUND: Gliadins are involved in gluten-related disorders and are responsible for the alteration of the cellular redox balance. It is not clear if the gliadin-related oxidative stress can induce DNA damage in enterocytes.
AIM: To investigate any possible genotoxicity caused by gliadin and to assess its relationship with oxidative stress in vitro and ex vivo.
METHODS: Caco-2 cells were exposed for 6-12-24 h to increasing concentrations (250 μg/mL-1000 μg/mL) of digested gliadin. We investigated: cytotoxicity, oxidative balance (reactive oxygen species, ROS), DNA damage (comet assay and γ-H2AX detection), transglutaminase type 2 (TG2) activity and annexin V expression. H2AX and 8-OHG immunohistochemistry has been evaluated on duodenal biopsies of celiac subjects and controls.
RESULTS: Gliadin induced a significant increase (+50%) of ROS after 12 h of exposition starting with a 500 μg/mL dose of gliadin. Comet assay and γ-H2AX demonstrated DNA damage, evident at the gliadin concentration of 500 μg/mL after 24 h. TG2 activity increased in chromatin and cytoskeleton cellular compartments at different gliadin doses (250/500/1000 μg/mL). The γ-H2AX and 8-OHG immunohistochemistry was altered in the duodenal biopsies of celiac patients.
CONCLUSIONS: Gliadin induces cellular oxidative stress, DNA damage and pro-apoptotic stimulation in Caco-2 cells and in the duodenal mucosa of celiac

patients.

DOI: 10.1016/j.dld.2018.06.020
PMID: 30055963

122. J Pediatr Gastroenterol Nutr. 2019 Jan;68(1):20-25. doi: 10.1097/MPG.0000000000002109.

In Screening for Celiac Disease, Deamidated Gliadin Rarely Predicts Disease When Tissue Transglutaminase Is Normal.

Gould MJ(1), Brill H(2)(3)(4), Marcon MA(1)(5), Munn NJ(6)(7), Walsh CM(1)(5)(8)(9).

Author information:
(1)Department of Paediatrics, University of Toronto.
(2)Department of Paediatrics, McMaster University.
(3)Department of Paediatrics, William Osler Health System.
(4)Division of Gastroenterology & Nutrition, McMaster Children's Hospital.
(5)Division of Gastroenterology, Hepatology and Nutrition, Hospital for Sick Children.
(6)Michael G. DeGroote School of Medicine.
(7)Department of Family Medicine, McMaster University.
(8)The Research and Learning Institutes, Hospital for Sick Children.
(9)The Wilson Centre, University of Toronto, Toronto, Ontario, Canada.

OBJECTIVE: While tissue transglutaminase (tTG) antibodies are the most established serological test for celiac disease, newer deamidated gliadin peptide (DGP) screening tests are increasingly being completed. No pediatric study has systematically assessed the incidence of celiac disease in patients with an isolated positive DGP result. We sought to determine the positive predictive value of DGP serology for biopsy-confirmed celiac disease in pediatric patients with elevated DGP and normal tTG, to help guide clinicians' decision making when screening for this common condition and avoid unnecessary invasive follow-up diagnostic testing.
METHODS: A multicenter retrospective review of children, from birth to age 18, with isolated DGP immunoglobulin G (IgG) positive serology referred to 3 Canadian centers was completed. The positive predictive value of an isolated elevated DGP result was calculated.
RESULTS: Forty patients with DGP positive, tTG negative serology underwent endoscopy with duodenal biopsy. Of these, only 1 patient had biopsy-confirmed celiac disease. This patient was IgA deficient. This yields a positive predictive value of 2.5% (95% confidence interval 0.1%-14.7%) for isolated DGP IgG positive serology.
CONCLUSIONS: In isolation, DGP positive serology has a poor positive predictive value for celiac disease in children, especially in IgA sufficient individuals. Our findings suggest that DGP IgG testing should not be completed as part of the initial screening for celiac disease in the pediatric population as it does not effectively differentiate between individuals with and without the disease. Further research is needed to clarify to role of DGP IgG in children under the age of 2 and those with IgA deficiency.

DOI: 10.1097/MPG.0000000000002109

PMID: 30052564

123. J Autism Dev Disord. 2019 Jan;49(1):83-95. doi: 10.1007/s10803-018-3697-4.

Physical health in children with neurodevelopmental disorders.

Alabaf S(1), Gillberg C(2), Lundström S(2)(3), Lichtenstein P(4), Kerekes N(5), Råstam M(2)(6), Anckarsäter H(3).

Author information:
(1)Gillberg Neuropsychiatry Centre, Institute of Neuroscience and Physiology, University of Gothenburg, Gothenburg, Sweden. setareh.alabaf@gu.se.
(2)Gillberg Neuropsychiatry Centre, Institute of Neuroscience and Physiology, University of Gothenburg, Gothenburg, Sweden.
(3)Center for Ethics, Law and Mental health (CELAM), Institute of Neuroscience and Physiology, University of Gothenburg, Gothenburg, Sweden.
(4)Department of Medical Epidemiology and Biostatistics, Karolinska Institute, Stockholm, Sweden.
(5)Department of Health Sciences, University West, Trollhättan, Sweden.
(6)Department of Clinical Sciences Lund, Child and Adolescent Psychiatry, Lund University, Lund, Sweden.

Erratum in
J Autism Dev Disord. 2018 Oct 19;:.

With increasing numbers of children being diagnosed with neurodevelopmental disorders (NDDs) attention has been drawn to these children's physical health. We aimed to identify the prevalence of defined physical problems (epilepsy, migraine, asthma, cancer, diabetes, psoriasis, lactose intolerance, celiac disease, diarrhea, constipation, daytime enuresis, encopresis) in a nationwide population of 9- and 12-year-old twins subdivided into those with and without indications of NDDs. Parents of 28,058 twins participated in a well-validated telephone interview regarding their children's mental health and answered questions about their physical problems. The results indicate a high rate of physical problems in children with NDDs, particularly in those with indications of the presence of combinations of several NDDs.

DOI: 10.1007/s10803-018-3697-4
PMCID: PMC6331488
PMID: 30043349

124. Minerva Pediatr. 2019 Feb;71(1):39-46. doi: 10.23736/S0026-4946.18.05366-5. Epub 2018 Jul 18.

Celiac disease in children.

Benelli E(1)(2), Zin A(3), Martelossi S(4).

Author information:
(1)Department of Medical, Surgical and Health Sciences, University of Trieste, Trieste, Italy - elisa.benelli@gmail.com.
(2)Unit of Pediatric, Ca' Foncello Hospital, Treviso, Italy - elisa.benelli@gmail.com.
(3)Department of Women's and Children's Health, University of Padua, Padua, Italy.

(4)Unit of Pediatric, Ca' Foncello Hospital, Treviso, Italy.

Celiac disease is a common immune-mediated disease, that may present, after gluten ingestion, with various and heterogeneous symptoms that can vary according to patients' age. The diagnostic screening test is serum anti-tissue transglutaminase IgA level. In doubt cases, antiendomysium IgA and the antideamidated gliadin peptides IgG could be useful to confirm the suspicion, before a biopsy will be perform. Since 2012, guidelines have made it possible to avoid the biopsy in symptomatic pediatric patients with high levels of antitransglutaminase IgA, positivity to antiendomysium IgA, and with HLA DQ2 or DQ8. In all other cases duodenal biopsy is still mandatory to confirm the diagnosis. The therapy of celiac disease is a lifelong gluten free diet. In children prognosis of celiac disease is good, without complications. Here we review and discuss the present literature about celiac disease in childhood.

DOI: 10.23736/S0026-4946.18.05366-5
PMID: 30021413

125. Klin Padiatr. 2019 Jan;231(1):21-27. doi: 10.1055/a-0628-7001. Epub 2018 Jul 18.

Common Indications and The Diagnostic Yield of Esophagogastroduodenoscopy in Children with Gastrointestinal Distress.

Aydin M(1), Niggeschmidt J(2), Ballauff A(2), Wirth S(1), Hensel KO(1).

Author information:
(1)Witten/Herdecke University, Helios University Medical Center Wuppertal, Children's Hospital, Center for Clinical and Translational Medicine (CCTR), Center for Biomedical Education and Research (ZBAF).
(2)Pediatric Gastroenterology, Hepatology and Nutrition, Helios Children's Hospital Krefeld, Krefeld, Germany.

BACKGROUND: The number of inconspicuous results of esophagogastroduodenoscopies (EGDs) in childhood appears to be disturbingly high. The aim of this study was to analyze the diagnostic yield of EGD and to determine its relevance of specific clinical indications.
METHODS: We performed a retrospective analysis of 380 consecutive pediatric patients who underwent diagnostic EGD in two German level I pediatric gastroenterology departments in 2015 and 2016.
RESULTS: 44% of the 380 patients were male and 17% were younger than 5 years old. 55% of all EGDs (n=210) did not yield a pathological result. 27% (n=104) of all EGDs were performed due to nonspecific symptoms (epigastralgia, nausea). Strikingly, in this group, 88% (n=91) showed normal results and in only 12% a diagnosis was made: reflux esophagitis (n=5), Helicobacter pylori (HP) gastritis (n=6) or hemorrhagic gastritis (n=1). Fewer inconspicuous EGDs were performed in patients with dysphagia (68%) or heartburn and reflux (61%). 59 patients were examined due to serologically elevated celiac antibodies. Here, the diagnosis could be confirmed histopathologically in 78% (n=46). Of the 37 patients with abdominal pain and a previously positive non-invasive HP test, EGD served to establish the diagnosis of HP gastritis in 84%.
CONCLUSIONS: The diagnostic yield for EGDs is increased in patients with more specific symptoms (i. e. dysphagia, heartburn, HP, celiac disease). Consequently, as an invasive procedure, EGD warrants a strict indication.

Publisher: Die Zahl der unauffälligen Befunde der Ösophago-Gastro-Duodenoskopien (ÖGDs) im Kindes- und Jugendalter scheint beunruhigenderweise hoch zu sein. Das

Ziel der folgenden Studie war es, den diagnostischen Stellenwert von ÖGDs bei Kindern zu analysieren und die Relevanz von spezifischen, klinischen Indikationen für auffällige ÖGD-Befunde zu ermitteln.Wir führten eine retrospektive Studie von insgesamt 380 durchgeführten ÖGDs bei pädiatrischen Patienten in 2 großen pädiatrischen gastroenterologischen Abteilungen in den Jahren 2015 und 2016 durch.44% der 380 Patienten waren männlich und 17% der Patienten waren jünger als 4 Jahre alt. 55% aller durchgeführten ÖGDs (n=210) ergaben keine pathologischen Befunde. 27% (n=104) aller ÖGDs wurden aufgrund von nicht-spezifischen Symptomen wie Oberbauchschmerzen oder Übelkeit durchgeführt. Interessanterweise hatten in dieser Gruppe 88% (n=91) der Patienten einen unauffälligen Befund und in nur 12% konnte eine eindeutige Diagnose gestellt werden: Refluxösophagitis (n=5), Helicobacter pylori (HP) Gastritis (n=6) oder hämorrhagische Gastritis (n=1). Weniger unauffällige ÖGD-Befunde waren v. a. bei Patienten mit Dysphagie (68%) oder Sodbrennen und Reflux (61%) vorkommend. 59 Patienten wurden einer ÖGD aufgrund serologisch erhöhter Zöliakie-Autoantikörper unterzogen. Hier konnte die Diagnose histopathologisch in 78% (n=46) bestätigt werden. Von den 37 Patienten mit Bauchschmerzen und einem positiven nicht-invasiven HP-Test, konnte mittels ÖGD die Diagnose einer HP-Gastritis in 84% der Fälle nachgewiesen werden.Der diagnostische Nutzen von ÖGDs ist v. a. bei Patienten mit spezifischen Symptomen hoch (Dysphagie, Sodbrennen, HP, Zöliakie). Die Indikation zur ÖGD als invasives diagnostisches Instrumentarium sollte v. a. bei Kindern streng gestellt werden.

DOI: 10.1055/a-0628-7001
PMID: 30021234

Conflict of interest statement: The authors declare no conflict of interest.

126. J Sci Food Agric. 2019 Jan 30;99(2):719-725. doi: 10.1002/jsfa.9239. Epub 2018 Aug 13.

Aggregation characteristics of protein during wheat flour maturation.

Wang N(1), Ma S(1), Li L(1), Zheng X(1).

Author information:
(1)College of Grain and Food Science, Henan University of Technology, Zhengzhou, China.

BACKGROUND: The protein aggregation characteristics of three types of freshly milled wheat flour with high, medium or low gluten were investigated during 90 days of maturation. Changes in the content and particle size of the glutenin macropolymer (GMP), contents of sulfhydryl groups and disulfide bonds (SS), and secondary structure and molecular weight distribution of the protein were determined.
RESULTS: For high, medium and low gluten flour, GMP content increased to 22.25, 13.72 and 10.32 g kg-1 ; free sulfhydryl group content decreased by 5.5%, 4.1% and 4.4%; and SS content increased by 1.6%, 1.8% and 2%, respectively. The proportion of β-sheet and random coil increased, and the proportion of α-helix and β-turns decreased. The polymeric protein content increased, whereas that of gliadin decreased.
CONCLUSION: Protein aggregation mediated by SS cross-linking helped develop a stronger gluten network. The findings provide theoretical support for the changes in protein structure during flour maturation and also help to predict the quality of wheat flour and its products. © 2018 Society of Chemical Industry.

DOI: 10.1002/jsfa.9239
PMID: 29992595 [Indexed for MEDLINE]

127. J Gastroenterol Hepatol. 2019 Jan;34(1):169-177. doi: 10.1111/jgh.14369. Epub 2018 Jul 31.

Celiac disease gene expression data can be used to classify biopsies along the Marsh score severity scale.

Charlesworth RPG(1), Agnew LL(1), Scott DR(2), Andronicos NM(1).

Author information:
(1)Discipline of Biomedical Sciences, School of Science and Technology, University of New England, Armidale, New South Wales, Australia.
(2)Hunter New England Area Health Service, Tamworth, New South Wales, Australia.

BACKGROUND AND AIM: The diagnosis of celiac disease autoimmune pathology relies on the subjective histological assignment of biopsies into Marsh score categories. It is hypothesized that Marsh score categories have unique gene expression signatures. The aims were as follows: first, to develop a celiac disease quantitative reverse transcription-polymerase chain reaction (RT-PCR) array; second, define gene expression signatures associated with Marsh score categories; and third, develop equations that classify biopsies into Marsh score categories and to monitor the efficacy of patient treatment.
METHODS: Gene targets for inclusion in the celiac RT-PCR (qRT-PCR) array were identified using systematic analysis of published celiac transcriptomic data. The array was used to assess the gene expression associated with histological changes in duodenal biopsies obtained from adult patients. Finally, Marsh score classification equations were defined using discriminant analysis.
RESULTS: The array contained 87 genes. The expression of 26 genes were significantly ($p < 0.06$) associated with the discrete Marsh score categories. As the Marsh score pathology of biopsies increased, there was a progression of innate immune gene expression through adaptive Th1-specific gene expression with a concurrent decrease in intestinal structural gene expression in high Marsh score samples. These 26 genes were used to define classification equations that accounted for 99% of the observed experimental variation and which could classify biopsies into Marsh score categories and monitor patient treatment progression.
CONCLUSIONS: This proof-of-concept study successfully developed a celiac RT-PCR array and has provided evidence that discriminant equations defined using gene expression data can objectively and accurately classify duodenal biopsies into Marsh score categories.

DOI: 10.1111/jgh.14369
PMID: 29972865

128. Acta Derm Venereol. 2019 Jan 1;99(1):78-83. doi: 10.2340/00015555-3001.

Granular IgA Deposits in the Skin of Patients with Coeliac Disease: Is it Always Dermatitis Herpetiformis?

Bonciolini V(1), Antiga E, Bianchi B, Del Bianco E, Ninci A, Maio V, Pimpinelli N, Caproni M.

Author information:
(1)Department of Surgery and Translational Medicine, Section of Dermatology, University of Florence, IT-50129 Florence, Italy. vbonciolini@gmail.com.

Coeliac disease is an immune-mediated enteropathy driven by gluten, which can be associated with dermatitis herpetiformis. The presence of granular IgA deposits, detected by direct immunofluorescence, is the hallmark of dermatitis herpetiformis; nevertheless, IgA deposits have also been demonstrated in healthy skin of patients with coeliac disease. The main objective of this study was to investigate whether IgA deposits could be found in the skin of patients with coeliac disease who have non-dermatitis herpetiformis inflammatory skin diseases. Direct immunofluorescence was performed on perilesional skin biopsies of 6 patients with coeliac disease with non-dermatitis herpetiformis inflammatory skin diseases and, as control, on 12 non-coeliac patients with inflammatory skin diseases. IgA deposits were found in all of the patients with coeliac disease, but were absent in the control group. In conclusion, IgA deposits may be considered an immunopathological marker for coeliac disease; therefore, patients with coeliac disease showing skin manifestations with positive direct immunofluorescence should be investigated carefully in order to make a differential diagnosis between dermatitis herpetiformis and other non-dermatitis herpetiformis inflammatory skin diseases.

DOI: 10.2340/00015555-3001
PMID: 29972219

129. J Vasc Surg. 2019 Feb;69(2):327-333. doi: 10.1016/j.jvs.2018.04.064. Epub 2018 Jun 30.

Complex endovascular aneurysm repair is associated with higher perioperative mortality but not late mortality compared with infrarenal endovascular aneurysm repair among octogenarians.

Tran K(1), Lee AM(1), McFarland GE(1), Sgroi MD(1), Lee JT(2).

Author information:
(1)Division of Vascular Surgery, Stanford University Medical Center, Stanford, Calif.
(2)Division of Vascular Surgery, Stanford University Medical Center, Stanford, Calif. Electronic address: jtlee@stanford.edu.

OBJECTIVE: As our collective experience with complex endovascular aneurysm repair (EVAR) has grown, an increasing number of older patients are being offered endovascular repair of juxtarenal aneurysms. Outcomes after complex EVAR in this older subpopulation are not well-described. We sought to specifically evaluate clinical outcomes after complex EVAR compared with infrarenal EVAR in a cohort of octogenarians.
METHODS: A single-center retrospective review was conducted using a database of consecutive patients treated with elective EVAR for abdominal aortic aneurysms (AAAs) between 2009 and 2015. Only patients 80 years of age or older were included. Patients in the complex EVAR group were treated with either snorkel/chimney or fenestrated techniques, whereas infrarenal EVAR consisted of aneurysm repair without renal or visceral involvement. Relevant demographic, anatomic, and device variables, and clinical outcomes were collected.

RESULTS: There were 103 patients (68 infrarenal, 35 complex) treated within the study period with a mean follow-up of 21 months. A total of 75 branch grafts were placed (59 renal, 11 celiac, 5 superior mesenteric artery) in the complex group, with a target vessel patency of 98.2% at latest follow-up. Patients undergoing complex EVAR were more likely to be male (82.8% vs 60.2%; P = .02) and have a higher prevalence of renal insufficiency (71.4% vs 44.2%; P = .008). The 30-day mortality was significantly greater in patients treated with complex EVAR (8.6% vs 0%; P = .03). There were no differences in major adverse events (P = .795) or late reintervention (P = .232) between groups. Interestingly, sac growth of more than 10 mm was noted to be more frequent with infrarenal EVAR (17.6% vs 2.8%; P = .039). However, both type IA (5.7% infrarenal; 4.9% complex) and type II endoleaks (32.3% infrarenal; 25.7% complex) were found to be equally common in both groups. Complex EVAR was not associated with increased all-cause mortality at latest follow-up (P = .322). Multivariable Cox modeling demonstrated that AAAs greater than 75 mm in diameter (hazard ratio; 4.9; 95% confidence interval, 4.6-48.2) and renal insufficiency (hazard ratio, 3.71; 95% confidence interval, 1.17-11.6) were the only independent risk factors of late death.
CONCLUSIONS: Complex EVAR is associated with greater perioperative mortality compared with infrarenal EVAR among octogenarians. However, late outcomes, including the need for reintervention and all-cause mortality, are not significantly different. Larger aneurysms and chronic kidney disease portends greater risk of late death after EVAR, regardless of AAA complexity. These patient-related factors should be considered when offering endovascular treatment to older patients.

DOI: 10.1016/j.jvs.2018.04.064
PMID: 29970274

130. Clin Gastroenterol Hepatol. 2019 Feb;17(3):463-468. doi: 10.1016/j.cgh.2018.06.016. Epub 2018 Jun 18.

Low Rates of Screening for Celiac Disease Among Family Members.

Faye AS(1), Polubriaginof F(2), Green PHR(1), Vawdrey DK(2), Tatonetti N(2), Lebwohl B(3).

Author information:
(1)Division of Gastroenterology and Hepatology, Columbia University Medical Center/NewYork-Presbyterian Hospital, New York, New York.
(2)Division of Biomedical Informatics, Columbia University Medical Center/NewYork-Presbyterian Hospital, New York, New York.
(3)Division of Gastroenterology and Hepatology, Columbia University Medical Center/NewYork-Presbyterian Hospital, New York, New York. Electronic address: BL114@cumc.columbia.edu.

BACKGROUND & AIMS: Given the increased morbidity and potential mortality of celiac disease, guidelines recommend screening high-risk individuals, including first-degree relatives of patients. We assessed how commonly celiac disease testing occurs in these individuals and identified factors that influence testing.
METHODS: Relatives of 2081 patients with biopsy-diagnosed celiac disease and followed up at Columbia University Medical Center were identified using relationship inference from the electronic health record-a validated method that

uses emergency contact information to identify familial relationships. We manually abstracted data from each record and performed univariate and multivariate analyses to identify factors associated with testing relatives for celiac disease.
RESULTS: Of 539 relatives identified, 212 (39.3%) were tested for celiac disease, including 50.4% (193 of 383) of first-degree relatives and 71.5% (118 of 165) of symptomatic first-degree relatives. Of the 383 first-degree relatives, only 116 (30.3%) had a documented family history of celiac disease. On multivariate analysis, testing was more likely in adults (odds ratio [OR], for 18-39 y vs younger than 18 y, 2.27; 95% CI, 1.12-4.58); relatives being seen by a gastroenterologist (OR, 15.16; 95% CI, 7.72-29.80); relatives with symptoms (OR, 3.69; 95% CI, 2.11-6.47); first-degree relatives of a patient with celiac disease (OR, 4.90, 95% CI, 2.34-10.25); and relatives with a documented family history of celiac disease (OR, 11.9, 95% CI, 5.56-25.48).
CONCLUSIONS: By using an algorithm to identify relatives of patients with celiac disease, we found that nearly 30% of symptomatic first-degree relatives of patients with celiac disease have not received the tests recommended by guidelines. Health care providers should implement strategies to identify and screen patients at increased risk for celiac disease, including methods to ensure adequate documentation of family medical history.

DOI: 10.1016/j.cgh.2018.06.016
PMID: 29913278

131. Arch Dis Child. 2019 Feb;104(2):200-201. doi: 10.1136/archdischild-2018-314846. Epub 2018 Jun 5.

Coeliac disease in children with Down syndrome in Ireland.

Alsaffar M(1), Balfe J(1)(2), McGrane F(1)(2), Nadeem M(1)(2), Quinn S(1)(2), Molloy E(1)(2).

Author information:
(1)Discipline of Paediatrics and Child Health, Trinity College Dublin, Dublin, Ireland.
(2)Department of Paediatrics, Tallaght Hospital, Dublin, Ireland.

DOI: 10.1136/archdischild-2018-314846
PMID: 29871902

Conflict of interest statement: Competing interests: None declared.

132. Acta Paediatr. 2019 Jan;108(1):149-153. doi: 10.1111/apa.14398. Epub 2018 May 31.

Elevated anti-tissue transglutaminase antibodies in children newly diagnosed with type 1 diabetes do not always indicate coeliac disease.

Rinawi F(1), Badarneh B(2), Tanous O(2), Bashir H(2), Tennenbaum-Rakover Y(3)(4), Peleg S(1)(4).

Author information:
(1)Paediatrics Gastroenterology Unit, Ha'Emek Medical Centre, Afula, Israel.
(2)Paediatrics Department, Ha'Emek Medical Centre, Afula, Israel.

(3)Paediatrics Endocrine Unit, Ha'Emek Medical Centre, Afula, Israel.
(4)The Ruth and Bruce Rappaport School of Medicine, Technion - Israel Institute of Technology, Haifa, Israel.

AIM: Elevated levels of anti-tissue transglutaminase (anti-tTG) antibody may spontaneously normalise in children with newly diagnosed type 1 diabetes, even if they eat gluten. The prevalence of this phenomenon and predictors of a subsequent coeliac disease (CD) diagnosis were determined.
METHODS: The medical records of children diagnosed with type 1 diabetes at Ha'Emek Medical Centre, Israel, from 2007 to 2015, were retrospectively reviewed for elevated anti-tTG antibody levels. Demographic, clinical, laboratory and histological findings were compared between CD patients and those with transient coeliac serology.
RESULTS: Of 425 patients with new onset type 1 diabetes, 34 (8%) had elevated anti-tTG antibodies: CD was diagnosed in 14, anti-tTG normalisation occurred in 13 and duodenal biopsies did not suggest CD in seven without anti-tTG antibody normalisation. Protective factors for a subsequent CD diagnosis were older age ($p = 0.009$) and mildly elevated anti-tTG antibody levels at the time of the type 1 diabetes diagnosis ($p = 0.007$), and decreased anti-tTG levels within six months of diagnosis ($p = 0.03$).
CONCLUSION: Serological follow-up of a diet containing gluten is recommended for children who have newly diagnosed type 1 diabetes and slightly elevated anti-tTG antibodies with no symptoms that suggest CD.

DOI: 10.1111/apa.14398
PMID: 29752820

133. J Allergy Clin Immunol. 2019 Jan;143(1):201-212.e4. doi: 10.1016/j.jaci.2018.02.041. Epub 2018 Mar 21.

Wheat amylase-trypsin inhibitors exacerbate intestinal and airway allergic immune responses in humanized mice.

Bellinghausen I(1), Weigmann B(2), Zevallos V(3), Maxeiner J(4), Reißig S(5), Waisman A(5), Schuppan D(3), Saloga J(6).

Author information:
(1)Department of Dermatology, University Medical Center, Johannes Gutenberg University, Mainz, Germany; Research Center for Immunotherapy, University Medical Center, Johannes Gutenberg University, Mainz, Germany. Electronic address: iris.bellinghausen@unimedizin-mainz.de.
(2)Department of Internal Medicine I, University Hospital Erlangen, University of Erlangen-Nürnberg, Erlangen, Germany.
(3)Research Center for Immunotherapy, University Medical Center, Johannes Gutenberg University, Mainz, Germany; Institute of Translational Immunology, University Medical Center, Johannes Gutenberg University Mainz, Mainz, Germany.
(4)Asthma Core Facility, Research Center for Immunotherapy, University Medical Center, Johannes Gutenberg University, Mainz, Germany.
(5)Research Center for Immunotherapy, University Medical Center, Johannes Gutenberg University, Mainz, Germany; Institute for Molecular Medicine, University Medical Center, Johannes Gutenberg University, Mainz, Germany.
(6)Department of Dermatology, University Medical Center, Johannes Gutenberg University, Mainz, Germany; Research Center for Immunotherapy, University Medical Center, Johannes Gutenberg University, Mainz, Germany.

BACKGROUND: Amylase-trypsin inhibitors (ATIs) in wheat and related cereals are potent activators of myeloid innate immune cells via engagement of TLR4. Furthermore, ATIs have been shown to serve as adjuvants in experimental intestinal inflammatory diseases.
OBJECTIVE: The aim of this study was to analyze whether ATIs are also modifiers of allergic inflammation.
METHODS: Therefore, CD4+ T cells from donors sensitized to grass or birch pollen were stimulated with autologous allergen-pulsed dendritic cells in the presence or absence of ATIs or the control storage protein zein from corn. To analyze allergen-induced gut and lung inflammation, immunodeficient mice were engrafted with PBMCs from these allergic donors plus the respective allergen, and fed with selected diets. Three weeks later, inflammation was induced by rectal or intranasal allergen challenge and monitored by mini endoscopy or airway hyperreactivity, respectively.
RESULTS: Allergen-specific T-cell proliferation and cytokine production was significantly exacerbated by ATIs and not by zein. In vivo, allergen-specific human IgE level was strongly elevated in sera of mice receiving an ATI-containing diet compared with mice that were fed gluten-free and thus ATI-free diet. Importantly, allergen-induced IgE-dependent colitis and airway hyperreactivity were also enhanced in ATI-fed mice. Gut inflammation was further increased in mice receiving an additional ATI injection and even detectable in the absence of the aeroallergen, whereas zein had no such effect. Injection of anti-human TLR4 mAbs or the anti-human IgE mAb omalizumab completely abolished ATI-induced allergic inflammation.
CONCLUSIONS: These results underline that wheat ATIs are important nutritional activators and adjuvants of allergy, which might be exploited for nutritional therapeutic strategies.

DOI: 10.1016/j.jaci.2018.02.041
PMID: 29574077

134. Gut. 2019 Feb;68(2):377-378. doi: 10.1136/gutjnl-2018-316133. Epub 2018 Mar 17.

Markers of non-coeliac wheat sensitivity in patients with myalgic encephalomyelitis/chronic fatigue syndrome.

Uhde M(1)(2), Indart AC(1), Yu XB(1)(3), Jang SS(1)(3), De Giorgio R(4), Green PHR(1)(2), Volta U(4), Vernon SD(5), Alaedini A(1)(2)(3).

Author information:
(1)Department of Medicine, Columbia University Medical Center, New York, New York, USA.
(2)Celiac Disease Center, Columbia University Medical Center, New York, New York, USA.
(3)Institute of Human Nutrition, Columbia University Medical Center, New York, New York, USA.
(4)Departments of Medical and Surgical Sciences and Digestive System, Centro di Ricerca Biomedica Applicata (C.R.B.A.), University of Bologna, St. Orsola-Malpighi Hospital, Bologna, Italy.
(5)Bateman Horne Center, Salt Lake City, Utah, USA.

DOI: 10.1136/gutjnl-2018-316133
PMID: 29550784

Conflict of interest statement: Competing interests: None declared.

135. J Clin Gastroenterol. 2019 Jan;53(1):15-22. doi: 10.1097/MCG.0000000000000962.

Diagnostic Yield of 2 Strategies for Adult Celiac Disease Identification in Primary Care.

Scoglio R(1), Trifirò G(2), Sandullo A(3), Marangio G(1), D'Agate C(4), Costa S(5), Pellegrino S(5), Alibrandi A(6), Aiello A(7), Currò G(5), Cuzzupè C(5), Comisi F(8), Amato S(8)(9), Conti Nibali R(10), Oteri S(10), Magazzu G(5), Carroccio A(11)(12); Sicilian Celiac Disease Study Group.

Author information:
(1)Sicilian Celiac Disease Study Group.
(2)Department of Biomedical and Dental Sciences and Morphofunctional Imaging.
(3)Sicilian Celiac Disease Study Group, Sciacca (Agrigento).
(4)Celiac Disease Regional Center, Gastroenterology and Endoscopy Unit, University of Catania.
(5)Celiac Disease Regional Center.
(6)Medical Statistics, Department of Economics, University of Messina.
(7)Creativ-Ceutical, Milan.
(8)Celiac Disease Regional Center, Vittoria (Ragusa).
(9)Sicilian Celiac Disease Study Group, Catania.
(10)Department of Clinical and Experimental Medicine, University of Messina, Messina, Italy.
(11)Celiac Disease Regional Center, Internal Medicine, Giovanni Paolo II Hospital, Sciacca (Agrigento).
(12)DiBiMIS University of Palermo, Italy.

GOALS: To compare the diagnostic yield and cost-consequences of 2 strategies, screening regardless of symptoms versus case finding (CF), using a point-of-care test (POCT), for the detection of celiac disease (CD) in primary care, to bridge the diagnostic gap of CD in adults.
MATERIALS AND METHODS: All subjects under 75 years of age who consecutively went to their general practitioners' offices were offered POCT for anti-transglutaminase immunoglobulin A antibodies. The POCT was performed on all subjects who agreed, and then a systematic search for symptoms or conditions associated with higher risk for CD was performed, immediately after the test but before knowing the test results. The 2 resulting groups were: (a) POCT positive and (b) symptomatic subject at CF. Subjects were defined as symptomatic at CF in the presence of 1 or more symptoms. All POCT-positive or symptomatic subjects at CF were referred to the CD Centers for confirmation of CD. Data on resource consumption were gathered from patients' charts. Cost of examinations, and diagnostic and laboratory tests were estimated with regional outpatient tariffs (Sicily), and a price of &OV0556;2.5 was used for each POCT.
RESULTS: Of a total of 2197 subjects who agreed to participate in the study, 36 (1.6%) and 671 (30.5%) were POCT positive and symptomatic at CF, respectively. The yield from the screening and CF was 5 new celiac patients. The total cost and mean cost for each new CD case were &OV0556;7497.35 and &OV0556;1499.47 for the POCT screening strategy, and &OV0556;9855.14 and &OV0556;1971.03 for the CF strategy, respectively. Assuming consecutive use of both strategies, performing POCT only in symptomatic subjects at CF, the calculated yield would be 4 new diagnoses with a total cost of &OV0556;2345.84 and a mean cost of &OV0556;586.46 for each newly diagnosed patient. Only 1 patient was celiac despite a negative POCT.

CONCLUSIONS: Testing symptomatic subjects at CF only by POCT seems the most cost-effective strategy to bridge the diagnostic gap of adult CD in primary care.

DOI: 10.1097/MCG.0000000000000962
PMID: 29256989

136. J Clin Gastroenterol. 2019 Jan;53(1):e31-e36. doi: 10.1097/MCG.0000000000000969.

Abdominal Ultrasound Does Not Reveal Significant Alterations in Patients With Nonceliac Wheat Sensitivity.

Soresi M(1), Mansueto P(1), Terranova A(1), D'Alcamo A(1), La Blasca F(1), Cavataio F(2), Iacobucci R(1), Carroccio A(3)(4).

Author information:
(1)Di.Bi.M.I.S., Division of Internal Medicine, Policlinico University Hospital, Palermo.
(2)Division of Pediatrics.
(3)Internal Medicine, "Giovanni Paolo II" Hospital, Sciacca, Agrigento.
(4)Di.B.I.M.I.S., University of Palermo, Italy.

GOALS: The goal of this study was (A) to evaluate abdominal ultrasound signs in nonceliac wheat sensitivity (NCWS) patients for features useful in diagnosis and (B) to compare these aspects with those of celiac patients to assess whether ultrasound can be useful in the differential diagnosis between NCWS and celiac disease (CD).
BACKGROUND: NCWS diagnosis is difficult as no biomarkers of this condition have as yet been identified. In CD ultrasound aspects have been identified that have a good diagnostic accuracy.
STUDY: We prospectively recruited 45 NCWS patients (11 males, 34 females; mean age 35.7 y). Three control groups were included: (A) 99 age-matched CD patients; (B) 18 patients with seronegative CD; (C) 50 patients with irritable bowel syndrome (IBS) who did not improve on a wheat-free diet. NCWS diagnosis was confirmed on the basis of an elimination diet and double-blind placebo-controlled (DBPC) challenge. Ultrasound sign investigation included: dilatation of the small bowel loops, thickening of the small bowel wall, hyperperistalsis, enlarged mesenteric lymph nodes, ascites, hyposplenism, altered diameter of the portal vein.
RESULTS: NCWS patients showed a low frequency of pathologic ultrasound findings. Dilated or thickened loops appeared more often in CD patients than in NCWS patients (88.8% vs. 20%; $P<0.0001$). These US signs were significantly more frequent in seronegative CD than in NCWS patients (both $P<0.0001$), whereas no difference was found between NCWS patients and IBS controls.
CONCLUSIONS: In NCWS patients' ultrasound does not show a characteristic pattern which could be helpful for diagnosis. However, US can be useful to differentiate between NCWS and CD patients and especially those with seronegative CD. (ClinicalTrials.gov NCT03017274).

DOI: 10.1097/MCG.0000000000000969
PMID: 29206754

137. J Clin Gastroenterol. 2019 Feb;53(2):e61-e67. doi: 10.1097/MCG.0000000000000957.

Rates of Duodenal Biopsy During Upper Endoscopy Differ Widely Between Providers: Implications for Diagnosis of Celiac Disease.

Pitman M(1), Sanders DS(2), Green PHR(1), Lebwohl B(1).

Author information:
(1)Celiac Disease Center, Department of Medicine, Columbia University College of Physicians and Surgeons, New York, NY.
(2)Department of Gastroenterology, Royal Hallamshire Hospital, Sheffield, UK.

GOAL: The goal of this study is to determine factors associated with performance of duodenal biopsy during upper endoscopy.
BACKGROUND: Celiac disease (CD) prevalence approaches 1% in the United States and Europe, yet CD remains underdiagnosed, in part because of low rates of duodenal biopsy during upper endoscopy. We aimed to identify patient and provider factors associated with performance of duodenal biopsy during upper endoscopy.
STUDY: In our hospital-based endoscopy suite, we identified all patients not previously diagnosed with CD who underwent upper endoscopy during a 5-year period for one of the following indications: abdominal pain/dyspepsia, gastroesophageal reflux (GERD), anemia/iron deficiency, diarrhea, and weight loss. We employed univariate and multivariate analysis to determine the association between clinical factors and the performance of duodenal biopsy.
RESULTS: Of 8572 patients included in the study, 4863 (57%) underwent duodenal biopsy. Of those who underwent duodenal biopsy, 24 (0.49%) were found to have CD. On multivariate analysis, age, gender, indication, gross endoscopic appearance, physician affiliation with a celiac disease center, and absence of a participating trainee were all significantly associated with the performance of duodenal biopsy. There was wide variability among providers, with duodenal biopsy rates ranging from 27% to 91% during these procedures.
CONCLUSIONS: A duodenal biopsy is more likely to be performed in younger patients, females, and for key indications such as weight loss, diarrhea, and anemia. Providers varied widely in the performance of duodenal biopsy. Further study is warranted to better understand the decision to perform duodenal biopsy and to determine the optimal scenarios for its performance.

DOI: 10.1097/MCG.0000000000000957
PMCID: PMC5930163 [Available on 2020-02-01]
PMID: 29095420

138. Nutr Neurosci. 2019 Jan;22(1):40-50. doi: 10.1080/1028415X.2017.1352121. Epub 2017 Jul 24.

Genetic predictors of celiac disease, lactose intolerance, and vitamin D function and presence of peptide morphins in urine of children with neurodevelopmental disorders.

Bojović K(1), Stanković B(2), Kotur N(2), Krstić-Milošević D(3), Gašić V(2), Pavlović S(2), Zukić B(2), Ignjatović Đ(3).

Author information:
(1)a Psychiatry Clinic "Dr Selaković" , Belgrade , Serbia.
(2)b Institute of Molecular Genetics and Genetic Engineering (IMGGE), University of Belgrade , Belgrade , Serbia.
(3)c Institute for Biological Research "Siniša Stanković", University of Belgrade , Belgrade , Serbia.

Gastrointestinal disturbances, nutritional deficiencies, and food intolerances are frequently observed in children with neurodevelopmental disorders (NDD). To

reveal possible association of celiac disease risk variants (HLA-DQ), lactose intolerance associated variant (LCT-13910C>T) as well as variant associated with vitamin D function (VDR FokI) with NDD, polymerase chain reaction-based methodology was used. Additionally, intestinal peptide permeability was estimated in NDD patients and healthy children by measuring the level of peptides in urine using high-performance liquid chromatography. Levels of opioid peptides, casomorphin 8, and gluten exorphin C were significantly elevated in urine samples of NDD patients ($P = 0.004$ and $P = 0.005$, respectively), but no association of genetic risk variants for celiac disease and lactose intolerance with NDD was found. Our results indicate that increased intestinal peptide permeability observed in analyzed NDD patients is not associated with genetic predictors of celiac disease or lactose intolerance. We have also found that FF genotype of VDR FokI and lower serum levels of vitamin D (25-OH) showed association with childhood autism (CHA), a subgroup of NDD. We hypothesize that vitamin D might be important for the development of CHA.

DOI: 10.1080/1028415X.2017.1352121
PMID: 28738753

139. Celiac Disease.

Taylor AK(1), Lebwohl B(2), Snyder CL(3), Green PHR(4).
In: Adam MP, Ardinger HH, Pagon RA, Wallace SE, Bean LJH, Stephens K, Amemiya A, editors. GeneReviews® [Internet]. Seattle (WA): University of Washington, Seattle; 1993-2019.
2008 Jul 3.

Author information:
(1)Scientific Director, Molecular Genetics, Colorado Coagulation, Laboratory Corporation of America Holdings, Englewood, Colorado
(2)Assistant Professor of Medicine and Epidemiology, Celiac Disease Center, Columbia University, New York, New York
(3)CLS Genetic Consulting, LLC
(4)Director, Celiac Disease Center, Phyllis and Ivan Seidenberg Professor of Medicine, Columbia University Medical Center, New York, New York

CLINICAL CHARACTERISTICS: Celiac disease is a systemic autoimmune disease that can be associated with gastrointestinal findings (diarrhea, malabsorption, abdominal pain and distension, bloating, vomiting, and weight loss) and/or highly variable non-gastrointestinal findings (dermatitis herpetiformis, chronic fatigue, joint pain/inflammation, iron deficiency anemia, migraines, depression, attention-deficit disorder, epilepsy, osteoporosis/osteopenia, infertility and/or recurrent fetal loss, vitamin deficiencies, short stature, failure to thrive, delayed puberty, dental enamel defects, and autoimmune disorders). Classic celiac disease, characterized by mild to severe gastrointestinal symptoms, is less common than non-classic celiac disease, characterized by absence of gastrointestinal symptoms.
DIAGNOSIS/TESTING: The diagnosis of celiac disease is established in an individual with: Positive celiac serologic testing while on a gluten-containing diet (tissue transglutaminase IgA, anti-deamidated gliadin-related peptide IgA and IgG, endomysial antibody IgA), Characteristic histologic findings on small-bowel biopsy, and Human leukocyte antigen (HLA) haplotype DQ2 or DQ8 identified by molecular genetic testing of HLA-DQA1 and HLA-DQB1.
MANAGEMENT: Treatment of manifestations: Lifelong adherence to a strict gluten-free diet (avoidance of wheat, rye, and barley); treatment of nutritional deficiencies (iron, zinc, calcium, fat-soluble vitamins, folic acid); standard

treatment of osteoporosis. For individuals unresponsive to a gluten-free diet, evaluation for refractory celiac disease, ulcerative enteritis, T-cell lymphoma, and other gastrointestinal cancers. Surveillance: For symptomatic individuals responsive to a gluten-free diet abnormal serologies should be followed to normalization, periodic physical examination and assessment of growth, nutritional status, and non-gastrointestinal disease manifestations. Agents/circumstances to avoid: Dietary gluten. Evaluation of relatives at risk: Molecular genetic testing of first-degree relatives of a proband (including young children) to monitor those with known celiac disease-susceptibility alleles for early evidence of celiac disease in order to institute gluten-free diet early in the disease course.
GENETIC COUNSELING: Celiac disease is a multifactorial disorder resulting from the interaction of HLA-DQA1 and HLA-DQB1 allelic variants known to be associated with celiac disease susceptibility, less well-recognized variants in non-HLA genes, gliadin (a subcomponent of gluten), and other environmental factors. Some empiric risk data for at-risk relatives are available.

PMID: 20301720