

Gluten Intolerance
&
Celiac Disease:
What you need to know

Matthew R. Riley, MD
Northwest Pediatric Gastroenterology
Portland, OR

Objectives

- Review the spectrum of wheat-related physical ailments
- Describe controversy in differentiating non-celiac gluten-sensitivity from FODMAP sensitivity
- Discuss clinical pathways to differentiate these clinical entities
- Outline potential therapies for celiac disease

Wheat-related Medical Conditions

- Wheat allergy
- Celiac disease
- Non-celiac gluten sensitivity
- IBS with fructan sensitivity

Celiac Disease

- Permanent, autoimmune enteropathy caused by an abnormal immune response to gluten proteins in genetically susceptible individuals
- Treatment is lifelong avoidance of hordein, secalin and gliadin proteins

Wheat Allergy

- Immune-mediated reaction to food protein
- Allergy to albumin, globulin, gliadin or gluten in wheat
- Treatment is lifelong avoidance of wheat proteins
- Treatment of anaphylaxis, as needed

Non-Celiac Gluten Sensitivity

- Syndrome of gluten reactions in which both allergy and autoimmune mechanisms have been ruled out (not allergy, not celiac)
- May show some degree of auto-immunity
- May have genetic susceptibility to celiac disease
- Diagnosis of exclusion
- Treatment is reduction or avoidance of gluten

IBS with Fructan Sensitivity

- One of family of fermentable carbohydrates
- FODMAP: **F**ermentable **O**ligosaccharides, **D**isaccharides, **M**onosaccharides and **P**olyols
- Incompletely digested fructans are delivered to the colon and fermented by colonic bacteria
- Treatment is reduction in FODMAP consumption

NCGS vs. IBS



VS



Alessio Fasano
Chief, Pediatric Gastroenterology
Mass General
Director, Center for Celiac Research
Boston, Massachusetts

Jane Muir
Head, Translational Nutritional Science
Monash University
Victoria, Australia

Clinical Pathway to Diagnosis

- 1: Rule out wheat allergy
 - Typically by history alone, possible allergy testing
- 2: Evaluate for celiac disease
 - Tissue transglutaminase IgA / Endomysial IgA
 - If positive, endoscopy and duodenal biopsy
- 3: Therapeutic trial of *either* gluten-free *or* low-FODMAP diet

Celiac Disease: Future Directions

- Glutenases
 - ALV003: may attenuate gluten-induced small intestinal mucosal injury
 - ?adjunctive therapy with gluten-free diet
- Larazotide
 - Targets tight junction regulation
 - May reduce symptoms when added to GFD
 - May attenuate auto-immunity with gluten exposure

Celiac Disease: Future Directions

- Nexvax2
 - Potential to induce immune tolerance to gluten proteins
 - Currently enrolling

Challenges

- Clinician / patient education
- Lack of biomarkers for IBS and NCGS
- Linking IBS pathophysiology and phenotype
- Controlled dietary trials – how to introduce/restrict one food component at a time
- Don't forget the microbiome