Gluten Intolerance & Celiac Disease: What you need to know

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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: **Fermentable Oligosaccharides, Disaccharides, Monosaccharides and Polyols**

• Incompletely digested fructans are delivered to the colon and fermented by colonic bacteria

• Treatment is reduction in FODMAP consumption
NCGS vs. IBS

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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