# **How Food Sensitivities Cause Inflammation**

Food and food-chemical sensitivities are complex non-IgE (non-allergic), non-celiac inflammatory reactions. Sensitivities can involve both adaptive and innate pathways, multiple triggering mechanisms and multiple classes of white blood cells. Pathogenic reactions ultimately lead to the release of pro-inflammatory and pro-algesic mediators from associated leukocytes with resulting subclinical and clinical inflammatory effects.

## <u>Triggering</u> Mechanisms

- Food antigens
- Food chemicals
  - Haptens
  - Amines
  - Pharmacologic
- Immune Complexes
  - IgG
  - IgM
- Lectins

#### **Cellular Activation**

- Lymphocytes
  - Sensitized T-cells
  - + T-Cells
  - NK Cells
  - K Cells
- Eosinophils
- Basophils
- Monocytes
- Neutrophils

#### **Mediator Release**

- Cytokines
  - Interleukins
  - Chemokines
  - TNFs
  - Interferons
- Leukotrienes
- Histamine
- ECP, MPE, Amines
- Prostaglandins
- Others

## Migraine

Depression

Autism Spectrum Disorder

Eosinophilic Esophagitis

Fibromyalgia

Arthritis (Inflammatory)

Ulcerative Colitis

Crohn's Disease

Eosinophilic Gastroenteritis

Urticaria (chronic)

## ADD/ADHD

**Epilepsy** 

Otitis Media

**GERD** 

Asthma

Cyclic Vomiting Syndrome

Metabolic Syndrome

Irritable Bowel Syndrome

Interstitial Cystitis

**Atopic Dermatitis** 

## Pathophysiologic <u>Effects</u>

- Inflammation
  - Subclinical
  - Clinical
- Tissue damage
- Pain receptor activation
- Smooth muscle contraction
- Edema
- Excess mucous
- Neurological
- Endocrine
- Increased gut permeability



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