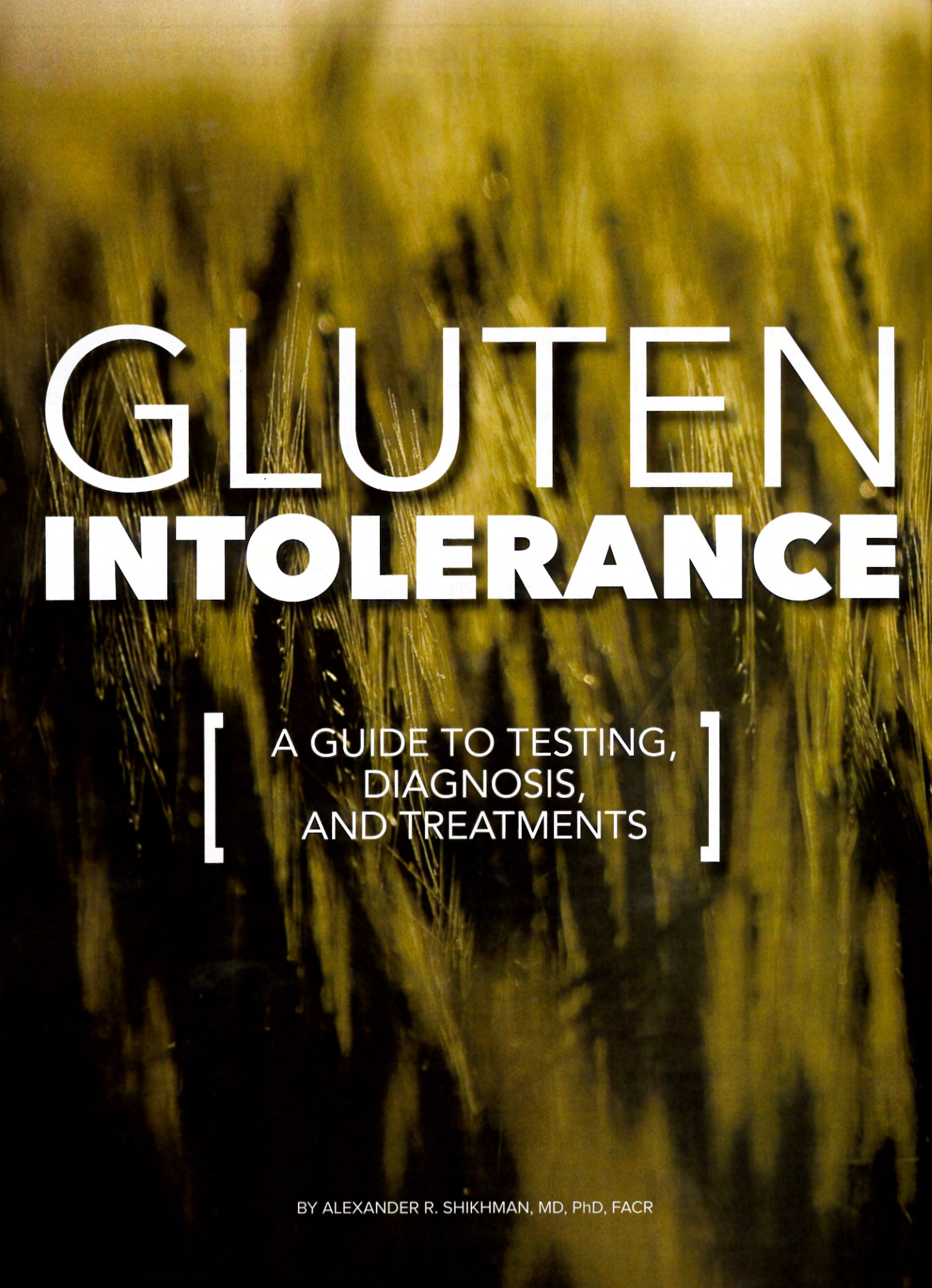

GLUTEN INTOLERANCE

A GUIDE TO TESTING, DIAGNOSIS, AND TREATMENTS

BY ALEXANDER R. SHIKHMAN, MD, PhD, FACR

Gluten intolerance is not "just another food intolerance." In fact, it is one of the most common genetically predisposed chronic inflammatory diseases driven by food. It is also frequently complicated by various metabolic disturbances and autoimmune processes.

ONE OF MY PATIENTS,

Mary, demonstrates the typical challenges people with this condition face. A 42-year-old woman dealing with chronic pain for nearly 20 years, Mary felt like she had exhausted her options with traditional medicine. She came to my clinic looking for a more integrative approach to managing her symptoms.

She had developed pain in her muscles and joints coinciding with her initial onset of endometriosis in her 20s. Initially she was diagnosed with fibromyalgia and started on antidepressants. She did not tolerate the drugs well and developed severe eye, mouth, and vaginal dryness. After the dryness persisted, she was referred to a rheumatologist and diagnosed with ankylosing spondylitis, an inflammatory disease that can cause some of the vertebrae in the spine to fuse together.

She started anti-inflammatory drugs and intravenous infusions of a biologic drug, Infliximab (Remicade), which did not decrease her pain level and resulted in the development of recurrent sinus infections. After six months with minimal improvement, the drugs were discontinued. After stopping the drugs, she started looking for alternative solutions. She came to our clinic for help.

Upon my initial consultation, her list of problems were as follows: generalized muscle pain; fatigue; morning stiffness; eye, mouth, and vaginal dryness; premature low bone density (osteoporosis); frequent migraine headaches; and irregular bowel movements with predominant constipation and bloating. Her physical examination revealed a skin rash over her shoulders; eye and mouth dryness; mild abdominal tenderness; and generalized muscle tenderness. Her lab test results showed mild anemia due to iron deficiency; low vitamin D level; and celiac disease-associated genes. Her endoscopy showed normal appearance of the stomach and duodenum. Her small intestinal biopsy was negative for celiac disease.

Based on her clinical presentation and genetic testing, I became suspicious that she was dealing with gluten intolerance and asked her to try a gluten-free diet. She also started vitamin D and iron supplementation. After one month of the diet, she reported a decrease in pain intensity by 40 to 50 percent, and in three months she was pain-free. We asked her to perform a "challenge test," a one-time ingestion of gluten to see if symptoms return. This resulted in a short-lived but near complete reproduction of her pain.

She became a staunch follower of a gluten-free diet. Six months after her initiation of the diet, she noticed improvement of the mucosal dryness. Two years after initiation of the diet she was still symptom free.

Mary's case is not a unique one. We have seen numerous instances of patients recovering from various autoimmune diseases when following a gluten-free diet.

WHAT MAKES GLUTEN SO UNIQUE, AND WHY DOES ELIMINATING GLUTEN HAVE SUCH A STRONG THERAPEUTIC EFFECT?

Human digestive enzymes cannot completely digest gluten in the gastrointestinal tract. Eating gluten results in the formation of large protein fragments (peptides) and stimulates an inflammatory reaction within the intestinal wall. Gluten peptides can also trigger immune responses in other internal organs, including the thyroid and salivary glands, brain, and so on. Furthermore, gluten peptides can be detected in breast milk and can trigger various undesirable reactions in breast-fed infants.

Based on genetics and epidemiologic studies, 10 to 35 percent of the general population is genetically predisposed

to gluten intolerance and gluten-associated diseases. Studies of people with gluten intolerance demonstrate a strong association with specific HLA (human leukocyte antigen) class II genes: HLA DQ2 and DQ8. T lymphocytes (a group of white blood cells that plays a central role in immunity) recognize and attack the gluten peptides presented by the DQ2 or DQ8 molecules.

This is when you get the inflammatory reaction and autoimmune response. People genetically predisposed to gluten intolerance can stop this response by avoiding gluten.

GLUTEN AND MUSCLE AND JOINT PAIN

Rheumatic diseases are conditions characterized by inflammation or pain in muscles, joints, or fibrous tissue. Those associated with gluten intolerance include:

- Sjogren's syndrome (an autoimmune disorder affecting tear and saliva glands that manifests as dry eyes and a dry mouth)
- Dermatomyositis (an autoimmune disease affecting muscles and skin)
- Pseudogout (recurrent deposition of calcium pyrophosphate crystals in the joints)
- Fibromyalgia (chronic muscle pain)
- Chronic fatigue syndrome
- Premature osteopenia and osteoporosis (diseases of abnormal bone architecture due to calcium loss)
- Isolated inflammation of sacroiliac joints
- Hashimoto disease of the thyroid gland

Gluten intolerance is also common in certain subsets of people with lupus, seronegative rheumatoid arthritis, psoriasis, and psoriatic arthritis, as well as in children with certain forms of juvenile arthritis.

People suffering from gluten intolerance frequently demonstrate metabolic abnormalities. They may have malabsorption of vitamins, including A, B_1, B_6, D, E, and K; macroelements such as iron, calcium, and magnesium; and microelements such as zinc, copper, and selenium. They may also display pernicious anemia (vitamin B_{12} deficiency) and impaired intestinal permeability, known as "leaky gut syndrome."

DIAGNOSING GLUTEN INTOLERANCE AND SUBSEQUENT THERAPY

A diagnosis of gluten intolerance is based on genetic testing (for HLA DQ2 and DQ8 genes), immunologic testing (looking for anti-gliadin and anti-transglutaminase antibodies in serum, stool, or saliva), as well as an intestinal or colon biopsy. The ultimate diagnosis comes from eliminating gluten from the diet for two to three months followed by a gluten challenge to see if symptoms are reproduced.

Therapy for gluten intolerance starts with a gluten-free diet. Depending on the individual's "gluten threshold," elimination of gluten from skin and dental products may be another necessary step. Complex therapy of gluten-intolerance can also include correcting metabolic abnormalities, reversing leaky gut syndrome, and restoration of gut microbiota.

Food supplements play a vital role in recovery from gluten intolerance due to their excellent safety profiles and natural ability to correct specific biochemical and physiological pathways. The most commonly used classes of food supplements include probiotics, prebiotics, digestive enzymes, vitamins, minerals, natural immune modulators (Cordyceps sinensis, mannan oligosaccharides, and bovine immunoglobulins) and regulators of intestinal permeability (calcium and magnesium butyrate, L-glutamine).

For further information and assistance in dealing with gluten-intolerance, autoimmune diseases, and related issues, visit our websites at ifsmed.com and glutenfreeremedies.com.

ALEXANDER R. SHIKHMAN, MD, PHD, FACR, *is board-certified in internal medicine and rheumatology. He is the CEO and founder of the Institute for Specialized Medicine, a state-of-the-art integrative care facility for arthritis and autoimmune diseases located in Del Mar, California.*

Unlikely Gluten Suspects

As the public becomes more aware of their own intolerances, knowing where gluten is hiding in your foods is becoming increasingly easy. As physicians continue to uncover more gluten sensitivities and celiac disease cases, companies are labeling their products when they are gluten-free and consumers are taking to reading the labels carefully. But it's just not breads gluten will be found in. Check out this table for a quick reference guide of gluten-filled products:

- Makeup
- Play-dough
- Medicine
- Vitamin supplements
- Pickles
- Bouillon cubes
- Blue cheese
- Hot dogs
- Frozen veggies (in sauce)
- Gravy
- Low-fat dairy products
- Alcoholic drinks
- Salad dressing
- Stamps and envelopes
- Couscous
- Communion wafers
- Cough syrups
- Mouthwash
- Toothpaste
- Lip balm/gloss
- Sunscreen
- Bath salts
- Lotions and creams
- Cleaning liquids
- Detergents
- Rubber/latex gloves
- Stickers
- Paints/clay
- Shampoo
- Conditioner