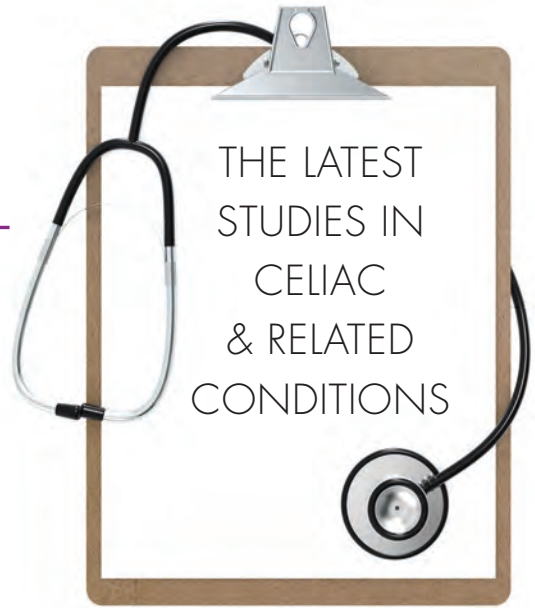


Research Roundup



Although typical manifestations of gluten intolerance and celiac disease present in the form of gastrointestinal disorders, a number of individuals have various extraintestinal manifestations, including neurological disorders.

From a laboratory standpoint, people with gluten intolerance/ceeliac disease complicated by neurological disorders have significantly high levels of IgA antibodies caused by transglutaminase isoenzyme type 6.

The following neurological manifestations are relatively common in people with gluten intolerance and celiac disease:

GLUTEN NEUROPATHY AND GLUTEN-ASSOCIATED ATAXIA

Neuropathy

Gluten neuropathy presents with tingling, pain, and numbness from nerve damage, initially in the hands and feet. It is a slowly progressive disease with a mean age at onset of 55 years.

Estimates of the prevalence of neuropathy in patients with gluten intolerance and celiac disease ranges from 0 to 39 percent, with an increased prevalence/risk in older and female patients.

In studies of patients with celiac disease in the US and Europe, prevalence of neuropathy ranged from:

- 4 to 23 percent of adults
- 0 to 7 percent of children
- 0.7 to 39 percent of combined/unspecified populations

Symptoms from gluten neuropathy improve when patients with gluten intolerance or celiac disease follow a gluten-free diet, although the diet may not prevent its development, and longer adherence to a gluten-free diet may not completely reverse neuropathy.

Ataxia

Patients affected by gluten-associated ataxia often present with difficulty with arm and leg control, gait instability, poor coordination, loss of fine motor skills such as writing, problems with talking, and visual issues.

Ataxia is a neurological condition involving significant lack of muscular coordination. Cerebellar ataxia is caused by disrupted neurological activity in the cerebellum. When your doctor asks you to close your eyes and touch your nose with the tip of your index finger, she's testing cerebellar coordination. Likewise, when a police officer asks a person to step out of the car and walk a straight line, heel-to-toe, she's testing cerebellar coordination – which can be disrupted by excessive alcohol intake.

With gluten ataxia, anti-gluten antibodies are frequently found in higher proportions with celiac disease than in the general population.

Reference:

“**Neurological Manifestations of Neuropathy and Ataxia in Celiac Disease: A Systematic Review.**” *Nutrients*. February 2019;11(2):380. Mearns, E.S., Taylor, A., et al.

GLUTEN-ASSOCIATED EPILEPSY

Epilepsy is 1.8 times more prevalent in people with celiac, compared to the general population. Celiac disease is over 2 times more prevalent in people with epilepsy compared to the general population.

A particularly interesting presentation of epilepsy in the context of gluten-related disorders is CEC syndrome, a combination of celiac disease, epilepsy, and bilateral occipital calcifications. The most common presentation of CEC is occipital epilepsy (seizures occurring in the visual center of the brain) in childhood.

A gluten-free diet is effective in the management of epilepsy in 50 to 55 percent of cases, either reducing seizure frequency, enabling reduced doses of antiepileptic drugs, or even stopping antiepileptic drugs.

Reference:

“Gluten sensitivity and epilepsy: a systematic review.” *Journal of Neurology.*
July 2019;266(7):1557-1565. Julian, T., Hadjivassiliou, M., Zis, P.

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GLUTEN-ASSOCIATED MOVEMENT DISORDERS

There are several movement disorders, which have been described in people with gluten intolerance and celiac disease. However, the prevalence of gluten sensitivity in patients with movement disorders as well as the role of a gluten-free diet have not been studied in depth.

The following movement disorders have a potential link to gluten sensitivity:

Chorea: Chorea is defined as irregular, brief, purposeless movements that flit from one body part to another, and it can be inherited or acquired.

Restless Leg Syndrome: Restless leg syndrome (RLS) is a circadian disorder appearing typically at the end of the day, being characterized by an intense and irresistible urge to move the lower extremities, either by itself or in response to unpleasant leg sensations. Symptoms typically improve while walking, stretching, or moving the lower limbs

Myoclonus: Myoclonus is defined as a sudden, brief, shock like involuntary movement caused by active muscle contraction (positive myoclonus), or inhibition of on-going muscle activity (negative myoclonus).

Palatal Tremor: Palatal tremor is defined as brief, rhythmic involuntary movements of the soft palate.

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Dystonia: Dystonia is defined as a hyperkinetic movement disorder characterized by sustained or intermittent muscle contractions that cause abnormal involuntary repetitive movements, postures, or both.

Postural Tremor: Tremor is a rhythmic oscillation of a body part, which is produced by either alternating or synchronous contractions of reciprocally innervated antagonist muscles.

Stiff-Person Syndrome: Stiff person syndrome is characterized by the increased tone of axial and limb muscles, with superimposed muscle spasms leading to lumbar hyperlordosis (exaggerated lumbar curve in the spine), impaired gait, falls, and autonomic dysfunction.

Parkinsonism: Parkinsonism is characterized by the presence of resting tremor, rigidity, slow movements, and postural instability.

Tics: Tics are sudden, rapid, non-rhythmic, intermittent muscle movements (motor tics), or sounds (phonic tics).

Reference:

“Movement Disorders Related to Gluten Sensitivity: A Systematic Review.”
Nutrients. August 2018;10(8):1034. Vinagre-Aragón, A. Zis, P., et al.

MYOPATHY, ENCEPHALOPATHY AND GLUTEN SENSITIVITY

Myopathy

Myopathy refers to an abnormality in structure and metabolism of skeletal muscle cells, leading to weakness and often wasting. There are several reports describing myopathy in patients with celiac disease. However, the true prevalence of celiac disease in patients with myopathies is still poorly defined.

Encephalopathy

Encephalopathy is a clinical term implying global brain dysfunction. Patients with encephalopathy can have a spectrum of symptoms ranging from headaches, confusion, disorientation, cognitive deficits, slow mentation and, in extreme cases, altered level of consciousness. Encephalopathy is a rare manifestation of gluten sensitivity and celiac disease. Patients with gluten-associated encephalopathy are characterized by a rapid symptom improvement after initiation of a gluten-free diet.

Reference:

“The Neuropathology of Gluten-Related Neurological Disorders: A Systematic Review.” *Nutrients.* March 2020;12(3):822. Rouvroye, M.D., Zis, P., et al. 

As always, consult a medical professional before beginning any new protocol.



ABOUT THE AUTHOR:

Dr. Alexander Shikhman, founder of the Institute for Specialized Medicine, is board certified in internal medicine and rheumatology. Dr. Shikhman also launched *Gluten-Free Remedies™*, a line of all natural supplements which help treat the complications that can arise from celiac disease. Find Dr. Shikhman at ifsmed.com and glutenfreeremedies.com.