

Neurogluten

Rodrigo L*

Full Emeritus Professor in Medicine, University of Oviedo, Spain

***Corresponding author:** Luis Rodrigo, Gastroenterology Service, Hospital Universitario Central de Asturias, University of Oviedo, Spain, Tel: 00.34.985.23.44.16; E-mail: lrodrigosaiez@gmail.com

Editorial

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Neurogluten

The term neurogluten encompasses a group of neurological illnesses that are related to the existence of an associated gluten intolerance, typically manifested as the presence of celiac disease (CD) or non-celiac gluten sensitivity (NCGS). Among these are included a range of diseases that are briefly discussed below [1].

Cerebellar ataxia

Cerebellar ataxia is the best known of all the diseases in this group. The illness is characterized by the presence of symptoms of ataxia or lack of motor coordination affecting equally the upper and lower limbs, with gait ataxia and dysarthria [2]. Its pathogenesis is related to the existence of an autoimmune pathology at the cerebellar level. The condition of some patients notably improves when they follow a strict gluten-free diet (GFD), especially when they start this early, within the first six months of the appearance of the disorder [3]. NCGS also seems to be involved in some cases of sporadic ataxia, and these have also been seen to improve upon implementation of a GFD [4].

Multiple Sclerosis

Some authors found a highly significant increase in levels of IgG antibodies against gliadin and transglutaminase in patients with MS, and concluded that a GFD should be recommended for patients with anti-gluten antibodies [5]. Other authors suggested that patients suffering a gluten-related disorder and, at the same time, ME and optical neuromyelitis (demyelinating diseases of the central nervous system) could benefit from a GFD in the treatment of both processes [6]. The

concomitant presence of MS with this atypical appearance, associated with autoimmune hepatitis and CD, is probably a rare association in patients in whom it has not been possible to detect the inflammatory damage to the central nervous system and liver caused by gluten [7].

Migraine headaches and cognitive disorders

Intense headaches, especially migraines, are associated in more than half of the cases in some series with the presence of associated gluten intolerance, for which reason many patients improve significantly after consistently following a GFD [8].

With respect to certain disorders of consciousness, some authors have reached the conclusion that there is a possible association between progressive cognitive deterioration and gluten. Thus, in a recent series, 23% of the patients studied improved or stabilized cognitively when gluten was excluded from their diet [9].

Autistic Spectrum Disorders

Autistic spectrum disorders (ASDs) include autism and as per ger syndrome. It is estimated that 1 in 2000 newborns (0.05%) will exhibit an ASD, this being four times more likely in males than in females. The ideal treatment combines various therapies and behavioral and educational interventions. Some authors have suggested that gluten peptides and casein may play a role in the origins of autism, and that the physiology and psychology of the condition may be explained by the excessive opioid activity associated with these peptides [10]. Others working in the same line of research have suggested a link between NCGS and a range of neuropsychiatric disorders, including autism [11].

Tourette Syndrome

The denomination of Tourette Syndrome (TS) includes patients who exhibit motor and/or phonic “tics”. These may be simple and/or complex, and are frequently associated with obsessive-compulsive disorders (OCDs) and/or attention deficit hyperactivity disorder (ADHD). They occur at a frequency of around 1% in the general population and although they may appear at any age, they predominate in infancy, particularly in males (four times as frequently as in females) [12]. Recent preliminary studies have confirmed a relationship with the associated presence of NCGS in a large proportion of TS patients and a clear improvement in the control of all their diverse clinical manifestations from consistently following a GFD [13,14]. Likewise, the symptoms of ADHD clearly respond within the first six months of starting a GFD, the improvement being maintained throughout prolonged periods on the diet [15,16].

Final Comments

Although the scientific evidence of the causal nature of these associations is not conclusive, it is worth continuing to study the presence of gluten intolerance in these patients—either in the form of CD or NCGS—since a GFD could provide them with an effective, safe and harmless treatment.

References

1. Hadjivassiliou M, Sanders DS, Grünewald RA, Woodroffe N, Boscolo S, et al. (2010) Gluten sensitivity: from gut to brain. *Lancet Neurol* 9(3): 318-330.
2. Jackson JR, Eaton WW, Cascella NG, Fasano A, Kelly DL. (2012) Neurologic and psychiatric manifestations of celiac disease and gluten sensitivity. *Psychiatr Q* 83(1): 91-102.
3. Ghazal FA, Singh S, Yaghi S, Keyrouz SG (2012) Gluten ataxia: an important treatable etiology of sporadic ataxia. *Int J Neurosci* 122: 545-546.
4. Hadjivassiliou M, Sanders DS, Woodroffe N, Williamson C, Grünewald RA (2008) Gluten ataxia. *Cerebellum* 7: 494-498.
5. Shor DB, Barzilai O, Ram M, Izhaky D, Porat-Katz BS, et al. (2009) Gluten sensitivity in multiple sclerosis: experimental myth or clinical truth? *Ann N Y Acad Sci* 1173: 343-349.
6. Hernández-Lahoz C, Rodrigo L. (2013) Gluten-related disorders and demyelinating diseases. *Med Clin (Barc)* 140(7): 314-319.
7. Ferro MT, Franciotta D, Riccardi T, D’Adda E, Mainardi E, et al. (2008) A case of multiple sclerosis with atypical onset associated with autoimmune hepatitis and silent coeliac disease. *Neurol Sci* 29: 29-31.
8. Gabrielli M, Cremonini F, Fiore G, Addolorato G, Padalino C, et al. (2003) Association between migraine and celiac disease: results from a preliminary case-control and therapeutic study. *Am J Gastroenterol* 98(3): 625-629.
9. Hu WT, Murray JA, Greenaway MC, Parisi JE, Josephs KA (2006) Cognitive impairment and celiac disease. *Arch Neurol* 63(10): 1440-1446.
10. Millward C, Ferriter M, Calver S, Connell-Jones G (2008) Gluten and casein-free diets for autistic spectrum disorder. *Cochrane Database Syst Rev* 16(2): CD003498.
11. Catassi C, Bai JC, Bonaz B, Bouma G, Calabro A, et al. (2013) Non-celiac gluten sensitivity: the new frontier of gluten related disorders. *Nutrients* 5(10): 3839-3853.
12. Cavanna AE, Termine C (2012) Tourette syndrome. *Adv Exper Med & Biology* 724: 375-383.
13. Rodrigo L, Huerta M, Salas-Puig J (2015) Tourette syndrome and non-coeliac gluten sensitivity. Clinical remission with a gluten-free diet: A description case. *J Sleep Disord Ther* 4: 183.
14. Couture DC, Chung MK, Shinnick P, Curzon J, McClure MJ, et al. (2016) Integrative medicine approach to pediatric obsessive-compulsive disorder and anxiety: A case report. *Glob Adv Health Med* 5(1): 117-121.
15. Niederhofer H, Pittschieler K (2006) A preliminary investigation of ADHD symptoms in persons with celiac disease. *J Atten Disord* 10(2): 200-204.