

MOTOR NEURON DISEASE

Can gluten sensitivity mimic amyotrophic lateral sclerosis?

According to a new report published in *JAMA Neurology*, a subset of patients with amyotrophic lateral sclerosis (ALS) are seropositive for transglutaminase 6 (TG6) antibodies, which are associated with sensitivity to the wheat protein gluten. The results raise the possibility that gluten sensitivity, which commonly manifests as the digestive disorder coeliac disease, can also present as an ALS-like syndrome that might be ameliorated by a gluten-free diet.

Study leader Vivian Drory explains that the research was prompted by a patient in her clinic with ALS, who had also recently been diagnosed as having coeliac disease.

“We looked at whether this association had been described before, and found two case reports,” she says. “This led us to examine whether these cases are pure chance associations, so we examined our ALS clinic

population cross-sectionally for gluten-sensitivity markers.”

Various neurological manifestations have been reported in patients with gluten sensitivity. One such manifestation, the movement disorder gluten ataxia, has been linked to the presence of serum TG6 antibodies. Drory and colleagues measured the levels of several different antibodies in 150 patients with ALS and 115 healthy controls. Most notably, 23 (15.3%) of the patients with ALS were seropositive for TG6 IgA, compared with only five (4.3%) of the controls.

If confirmed in future studies, the new findings could provide a case for considering gluten sensitivity in the differential diagnosis of ALS, with the possibility of dietary intervention in patients who meet the necessary criteria. A cautious approach is warranted, however, as patients with ALS have previously been shown to benefit from high calorie intake, which might be difficult to achieve with a gluten-free diet.

Drory’s team is now conducting a prospective study involving patients in the early stages of ALS (<2 years’ disease duration). Those participants who are found to be seropositive for gluten-related antibodies will be given the option of a gluten-free diet, which will be closely monitored by a specialist dietician. “This study will allow us to make better assumptions on the role of gluten-related antibodies in motor neuron degeneration, and also to explore the feasibility of a therapeutic approach in the subset of antibody-positive patients,” Drory concludes.

Heather Wood

Original article Gadoth, A. *et al.* Transglutaminase 6 antibodies in the serum of patients with amyotrophic lateral sclerosis. *JAMA Neurol.* doi:10.1001/jamaneuro.2015.48

Further reading Turner, M. R. *et al.* A case of coeliac disease mimicking amyotrophic lateral sclerosis. *Nat. Clin. Pract. Neurol.* 3, 581–584 (2007) | Brown, K. J. *et al.* White matter lesions suggestive of amyotrophic lateral sclerosis attributed to coeliac disease. *AJNR Am. J. Neuroradiol.* 31, 880–881 (2010)

