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Glycine receptor antibody- a marker for NMO/ non-MS demyelination?

Shahd Hamid, Liene Elson, Patrick Waters, Mark Woodhall, Kerry Mutch, Cahal Rafferty, Lisa Tang, Tom Solomon, Carmel Noonan, Angela Vincent and Anu Jacob

Background:

Antibodies against glycine receptors (GlyR Ab) have been strongly linked to progressive encephalomyelitis with rigidity and myoclonus (PERM). Their association with other neurological disorders is poorly understood.

Methods:

We looked retrospectively at all patients who were tested for (GlyR Abs) in the Walton Centre between 2010-2014.

Results:

138 patients were tested. The pre-test diagnoses (n) were transverse myelitis (34), NMO (22, (7 AQP4 IgG+ve and 15 AQP4 IgG-ve), optic neuritis (17), MS (22), ADEM (4), other atypical demyelination (4), encephalitis (11), epilepsy (4), dementia (4), parkinsonism (3), functional disorders (3) and others (10). 53.6% (74) had a relapsing course

6/138 (4%) were positive for GlyR Ab. The diagnoses (n) were optic neuritis (2) one of which was AQP4 IgG+ve, NMO-AQP4-IgG negative (1), transverse myelitis (1), tumefactive demyelination (1) and undiagnosed spastic ataxic syndrome with normal imaging (1). 5/6 had a relapsing course and are on immunosuppressants.

Conclusion:

Antibodies against GlyR are not common and seem to be associated with some non-PERM inflammatory CNS diseases, with a relapsing course. Larger studies are required to understand the clinical and prognostic significance of these early findings.