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ASSOCIATING AUTOANTIBODIES WITH CLINICAL FEATURES IN MSAnja Saso, Paolo Muraro, Richard Nicholas. *Imperial College London*

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Background A higher prevalence of autoimmune disease and non-CNS autoreactive antibodies in multiple sclerosis (MS) patients has long been established. It remains unclear, however, if this is associated with particular disease characteristics.

Aim This study investigates the association of non-CNS autoreactive antibodies with the clinical features of MS.

Methods A cohort of 200 patients with relapsing-remitting and secondary-progressive MS were tested for common autoantibodies. Multivariate analysis was used to look for associations with clinical and radiological parameters.

Results 30% of patients were positive for one or more autoantibodies, primarily anti-neutrophil cytoplasmic antibody (ANCA), anti-nuclear antibody (ANA) and/or anti-thyroid peroxidase antibody (anti-TPA). Multivariate analysis demonstrated that a model with age at assessment, presence of oligoclonal bands, relapses in the last year, ANCA and anti-TPA positivity was a significant predictor of the Multiple Sclerosis Severity Score (MSSS) ($p < 0.02$), explaining 7% of the variability ($R^2 = 0.07$). In this model, relapse number in the last year ($p < 0.05$) and ANCA positivity ($p < 0.01$) were significant factors. Radiological parameters were not significant.

Conclusions ANCA positivity in MS patients may impact disability progression in MS, thus affecting the MSSS. ANCA positivity has the potential to help classify subsets of patients based on their 'autoantibody fingerprint,' with possible implications on management.