A comprehensive analysis of antigen-specific autoimmune liver disease related autoantibodies in patients with multiple sclerosis

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**Autoimmunity Highlights**  
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Abstract
Introduction: Abnormal liver function tests are frequently seen in patients with multiple sclerosis (MS) and their origin at times is attributed to the possible co-occurrence or the de novo induction of autoimmune liver diseases (AILD), namely autoimmune hepatitis (AIH) and primary biliary cholangitis (PBC). Aim: To assess the presence of AILD-related autoantibodies in a well-defined cohort of MS patients.

Material and Methods: 133 MS (93 female) patients (mean age 42.7±11.9SD years, mean duration of disease 11.2 ±7.2 years were studied. Eighty age and sex-matched healthy individuals were tested as normal controls (NCs). Autoantibody testing was performed by indirect immunofluorescence (IF) using triple tissue and HEp-2, a multiparametric line immunoassay detecting anti-LKM1(anti-CYP2D6), anti-LC1(anti-FTCD), soluble liver antigen/liver-pancreas(anti-SLA/LP), AMA-M2, and (AMA-M2-3E), PBC-specific ANA (anti-gp210, anti-sp100 and anti-PML), and ELISA for anti-F-actin SMA and anti-dsDNA antibodies.

Results: The prevalence of at least one AILD-related autoabs was more frequent in MS patients compared to NCs (22.3% vs 7.25% p=0.0045). AIH-1 related anti-F-actin antibodies were present in 21 (15.8%), at relatively low titres (all but three of the SMA-VG pattern by IF); anti-dsDNA in 3 (2.3%), and anti-SLA/LP in none; AIH-2 anti-LKM1 autoantibodies in 1 (0.8 %, negative by IF), and anti-LC1 in none. PBC-specific AMA-M2 in 2 (1.5%), but negative for AMA-M2-3E and IF) and PBC-specific ANA anti-PML in 6 (4.5%), anti-sp100 in 1 (0.8 %) and anti-gp210 in 1 (0.8 %). Amongst the 30 MS patients with at least one autoab positivity, only 4 (3%) had overt AILD (2 AIH-1 and 2 PBC).

Conclusions: Despite the relatively frequent presence of liver autoantibodies, tested either by IF or monospecific assays, overt disease is rather infrequent discouraging autoantibody screening strategies of MS patients in the absence of clinical suspicion.

Full Text
Due to technical limitations, full-text HTML conversion of this manuscript could not be completed. However, the manuscript can be downloaded and accessed as a PDF.

Figures
Autoantibody testing by line immunoassay

Figure 1

Representative cases of abs detection in patients with MS using a line immunoassay
Figure 2

Levels of anti-ssDNA and anti-dsDNA and anti-F-actin abs in patients with multiple sclerosis
Figure 3

Levels of anti-F-actin antibodies in patients with multiple sclerosis (MS) and healthy controls