A196 ANTI-MIT3 ANTIBODIES IN SYSTEMIC SCLEROSIS

Cavazzana I,[1] Taraborelli M,[1] Ceribelli A,[2] Fredi M,[1] Norman G,[3] Satoh M,[4] Franceschini F[1] *[1]Rheumatology Unit and Chair, Spedali Civili, University of Brescia, Italy; [2]Department of Oral Biology, University of Florida, Gainesville, Florida, USA; [3]INOVA Diagnostics, San Diego, California, USA; [4]Department of Medicine, University of Florida, Gainesville, Florida, USA*

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Background and objectives Antimitochondrial (AMA) is considered the serological hallmark of primary biliary cirrhosis (PBC). Other autoantibodies recognising nuclear dots (Sp100) and nuclear pore complex proteins (gp-210) are associated to severe PBC, but they are found by less available methods. An ELISA with a combination of three mitochondrial antigens (MIT3), Sp100 and gp-210 has been recently developed. The aim of our study was to analyse the prevalence, associations and the fine specificity of antibodies to MIT3, Sp100 and gp210 in a cohort of Italian patients affected by systemic sclerosis (SSc).

Materials and methods 201 sera were analysed by ELISA (Quanta Lite TM ELISA; INOVA Diagnostics Inc, San Diego, California, USA) for the detection of antibodies to MIT3 (using goat anti-human IgA and IgG antibodies), Sp100 and gp210. Antinuclear, anti-ENA and anti-RNA polymerase III were detected by indirect immunofluorescence (IIF), counterimmunoelectrophoresis and ELISA, respectively. AMA were identified by IIF on rodent kidney/stomach/liver tissue sections. The diagnosis of SSc and PBC were assessed according to LeRoy criteria and EASL Clinical Practice Guidelines. More than 99% of patients were Caucasians of Italian ancestry.

Results Antibodies to combination of MIT3, gp210 or Sp100 (anti-PBC screen+) were detected in 21% of cases (43 sera): anti-MIT3 were found in 36, anti-Sp100 in 5 and anti-gp210 in 1 serum. Anticentromere (ACA) and AMA were more frequently detected in anti-PBC screen+ when compared with 158 negative group (p=0.0005 and p=0.001). When the authors considered only ACA+ patients, AMA and PBC were more frequently found in anti-PBC screen+ cases (p=0.02 and p=0.0009). Analysing the anti-MIT3 isotypes (36 sera), the authors found isolated IgG in 44.5%, IgA in 33.4%, IgG+IgA in 22%. Autoantibodies and clinical features of SSc didn't show a different distribution between groups, except for skin ulcers and pulmonary hypertension more frequently detected in isolated IgG and in total IgG anti-MIT3 cases, respectively. AMA were more frequently detected in IgA+IgG versus IgA or IgG anti-MIT3 groups (p=0.005 and p=0.002). IgA+IgG anti-MIT3 showed a more frequent diagnosis of PBC and elevation of serum ALP (considered a marker of liver disease severity) despite of urso-deoxycholic acid treatment, when compared with others (p=0.014 and p=0.04). Anti-MIT3 antibodies showed a good sensitivity and specificity (75% and 85%, respectively) for PBC diagnosis.

Conclusions The availability of fully automated ELISA could enhance the possibility of finding different autoantibodies considered markers of PBC in routine laboratory analysis, avoiding assays with diversified antigen sources. The anti-MIT3 isotypes characterisation could improve the assessment of patients with PBC, with higher risk of disease severity.