SP156 AUTOANTIBODIES TO M-TYPE PHOSPHOLIPASE A2 RECEPTOR: INDIVIDUALIZED SEROLOGY-BASED APPROACH TO MEMBRANOUS NEPHROPATHY

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INTRODUCTION: The anti-phospholipase A2 receptor (PLA2R) is the one of major autoantigens in primary membranous nephropathy (MN). A number of studies have suggested that anti-PLA2R antibodies (aPLA2RAb) could be a biomarker for assessing the activity MN and predicting prognosis and response to treatment, but some studies have demonstrated conflicting results. In this study we evaluate the association between aPLA2RAb and clinical activity MN as well as correlations with response to treatment.

METHODS: 30 pts (mean age 43.8±15.4 yrs; 80% men) with biopsy-proven primary MN and serum aPLA2RAb measured at the time of kidney biopsy before treatment were enrolled. Data at the time of kidney biopsy and during follow-up were analyzed. Serum level of aPLA2RAb was measured by indirect immunofluorescence method (reference aPLA2RAb titer <1:10).

RESULTS: aPLA2RAb were detected in 22 of 30 (73%) pts; aPLA2RAb titers were 1:20 (n=2), 1:40 (n=6), 1:80 (n=5), 1:160 (n=6), 1:320 (n=2), and 1:640 (n=1). Pts were grouped based on absence or presence of aPLA2RAb (Ab"–" [n=8] and Ab"+" [n=22] groups). Baseline characteristics were not significantly differ between two groups respectively in term of sex (75% vs. 82% of male), age (38±12.6 vs. 46.2±16.2 yrs), duration of disease (11 [IQR 4;20] vs. 5 [4;10] months), proteinuria (3.9 [3.1;9.3] vs. 6.6 [4.8;8.3] g/24h), serum albumin (24.8 [20.8;31.1] vs. 25 [19.5;32.0] g/l) and eGFR (101 [95.5;122.5] vs. 78 [61.8;101.8] ml/min/1.73m2). In comparision with Ab"–" group, in Ab"+" group there was a tendency to more frequency of proteinuria (PU) ≥4 g/24h (50% vs. 84%; p=0.069) and higher sCr levels (70.5 [58.5-89.3] vs. 96.0 [71.5-114.0] mmol/l), along with significantly lower number of patients with CKD stage 1 (87% vs. 38%; p=0.015). The proportions of patient with PU ≥8 g/24h were similar in two groups (37% vs. 26%, respectively).

There was no significant difference between median follow-up period in Ab"–" and Ab"+" groups (5 [3;10] vs. 8 [3;19] months). All aPLA2RAb"–" and 91% aPLA2RAb"+" pts had been treated with renin-angiotensin system blockers, 12% and 36% of them as monotherapy. In Ab"–" and Ab"+" groups 7 (87%) vs. 12 (54%) pts received immunosuppressive treatment (1 vs. 2 pts — cyclosporine, 5 vs. 8 pts — prednisolon and cyclophosphamide, and 1 vs. 2 pts with rituximab, respectively).

7 active anti-PLA2R"–" pts and 16 anti-PLA2R"+" pts who demonstrated high risk of MN progression (male, PU>8 g/24h) and complications of persistent NS, were treated. Complete remission occurred in 3 (37.5%) vs. 5 (31%) pts; partial remission in 3 (37.5%) vs. 4 (25%) pts; 2 (25%) and 7 (44%) pts have not achieved remission in aPLA2RAb"–" and aPLA2RAb"+" groups, respectively. All differences were not significant (p>0.05).

CONCLUSIONS: We propose that complex approach to MN (individualized serology-based in addition to traditional proteinuria-driven) will improve the MN outcomes. The tendency to more severe PU, higher sCr levels, significantly lower number patients with CKD 1 stage along with a shorter duration of MN in Ab"+" group might reflect a more severe disease. aPLA2RAb"–" pts who had no malignancy and demonstrated high risk of MN progression can be treated with immunosuppressant agents, and the therapy effectiveness is comparable to aPLA2RAb"+" pts.