Introduction and Aims: The presence of circulating autoantibodies against phospholipase A2 receptor (anti-PLA2R) has been correlated with clinical activity in idiopathic membranous nephropathy (IMN) and has been proposed as a reliable diagnostic and prognostic marker. We have conducted the first measurement of anti-PLA2R antibodies in Greek patients with biopsy-proven IMN.

Methods: Antibody levels were measured in serum samples from 65 patients using ELISA. In 33 patients, samples were obtained at diagnosis and before treatment whereas in the remaining 32 patients at random time points during their follow-up. Patients’ demographic and clinical data as well as outcome and relapse episodes were recorded and retrospectively studied.

Results: Of the 33 samples obtained at diagnosis, 16 were anti-PLA2R positive (48.5%). Positive antibody levels were found more often in females than in males (62.5% vs 17.6%, p < 0.05). No correlation was observed between antibody positivity at diagnosis and all clinical parameters as well as the histopathologic severity of the disease. In 4 anti-PLA2R-positive patients at diagnosis, a second sample was obtained after remission which was found negative in all cases. After a follow-up period of 50.9 ± 32.9 months, 15 of the 33 patients were in complete remission, 15 in partial remission and 3 had no remission of nephrotic syndrome. Mean antibody levels at diagnosis were significantly lower in patients who had complete remission compared to those with partial remission (37.97 ± 65.27 RU/ml vs 201.25 ± 277.36 RU/ml, p < 0.05). In 14 patients with relapses of proteinuria, 7 (50%) had a positive titer at diagnosis. Antibody levels were not correlated with subsequent appearance of relapse episodes. Random serum samples were obtained from 32 patients at 75.5 ± 55.1 months after diagnosis. At the time of sampling, 27 patients were in clinical remission of nephrotic syndrome and 5 had persistent nephrotic range proteinuria (> 3.5 g/day). Antibody titer were negative in 21 of the 27 patients in remission (77.8%) and in 3 of the 5 nephrotic patients (60%). Moreover, a second sample was obtained in 21 out of 32 patients after a mean period of 19.2 ± 15.4 months. In 12 patients, both samples were obtained during sustained remission and antibody levels remained negative in 9 (75%), whereas initially positive levels in 3 patients were reduced and 2 of them turned negative. In 6 patients, the first sample was obtained in remission and the second during relapse. Of them, only 2 samples became anti-PLA2R positive during relapse; however a level increase of 114.2% (mean 4.45 RU/ml to 16.3 RU/ml) was observed in 2 other patients. The remaining 3 patients had both samples obtained while persistently nephrotic and antibody titer remained stable with one anti-PLA2R positive patient.

Conclusions: The incidence of anti-PLA2R positive antibody titer in Greek IMN patients appears to be slightly lower than that reported in other populations. Anti-PLA2R levels at diagnosis could be useful in predicting long-term clinical remission but not future relapses. Antibody titers during patient follow-up highly correlate to their clinical status. Serial measurements indicate that antibody levels tend to remain unchanged in remission and to increase during relapse episodes.