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P403 -Complement in membranous nephropathy

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Background
The role of complement in idiopathic membranous nephropathy (iMN) is poorly understood. Approximately 70% of patients with iMN have autoantibodies against the phospholipase A2 (PLA2) receptor and biopsy specimens generally show positivity for C3 and IgG4 in immune deposits .However the pathway of complement activation in iMN remains unclear.
Methods
We examined a cohort of patients with PLA2R positive and negative iMN and otherwise similar clinical and laboratory characteristics. Cases of secondary MN were excluded. All biopsies were stained for PLA2R and for C3c, C3d, C4d, C5b9, FHR5 and IgG4. Clinical and laboratory characteristics were reviewed. The presence of subepithelial electron dense deposits (EDD) was examined and associated with the findings .
Results
Staining for complement factors revealed differences between the PLA2R positive and negative group. The PLA2R positive group had intense staining for all complement factors where the PLA2R negative group revealed less intense or absent staining. IgG4 staining was strong in PLA2R positive cases but varied in the PLA2R negative cases. Presence of more than 80% EDDs stage 1 and 2 correlated with the intensity of complement staining (Figure 1).
Conclusion
The role of complement in membranous nephropathy is not clearly understood. We have identified differences in the intensity of staining of complement factors C3c, C3d, C4d, C5b9 and FHR5 between PLA2R positive and negative patients possibly suggesting differences in disease mechanism that could affect prognosis and guide management.