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## Auto-immune membranous nephropathy and circulating short-living plasmablasts

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Membranous nephropathy (MN) is a kidney specific autoimmune disease mainly mediated by anti-phospholipase A2 receptor 1 autoantibody (PLA2R1 Ab). The adequate assessment of chimeric anti-CD20 monoclonal antibody, rituximab (RTX) efficacy is still needed to improve clinical outcome of patient with MN. We evaluated the modification of plasmablasts (CD3<sup>-</sup>CD19<sup>+</sup>CD20<sup>-</sup>IgD<sup>-</sup>CD27<sup>high</sup>CD38<sup>high</sup>), a useful biomarker of RTX response in other autoimmune diseases, memory (CD3<sup>-</sup>CD19<sup>+</sup>CD20<sup>+</sup>IgD<sup>-</sup>CD27<sup>+</sup>CD38<sup>-</sup>) and naive (CD3<sup>-</sup>CD19<sup>+</sup>CD20<sup>+</sup>IgD<sup>+</sup>CD27<sup>-</sup>CD38<sup>low</sup>) B cells by fluorescence-activated cell sorter analysis in PLA2R1 related MN in one patient during 4-years of follow-up after RTX. RTX induced complete disappearance of CD19<sup>+</sup> B cells, plasmablasts and memory B cells as soon as day 15. Despite of severe CD19<sup>+</sup> lymphopenia, plasmablasts and memory B cells re-emerged early before naive B cells (days 45, 90 and 120, respectively). During the follow-up, plasmablasts decreased more rapidly than memory B cells but remained still elevated as compared to Day 0 of RTX. Concomitantly, anti-PLA2R1 Ab increased progressively. Our single case report suggests that besides monitoring of serum anti-PLA2R1 Ab level, enumeration of circulating plasmablasts and memory B cells represents an attractive and complementary tool to assess immunological activity and efficacy of RTX induced B cells depletion in anti-PLA2R1 Ab related MN.

## Biography

Agnieszka Pozdzik has completed her Medical study from University School of Medicine, Lublin, Poland and has completed her PhD from Université Libre de Bruxelles, Brussels, Belgium. She is a Nephrologist and an Associate Professor at the Department of Nephrology. Since 2012, she is the Manager of the "Biobank of chronic kidney disease and urinary tract" (MARENVU) and of the Multidisciplinary Center of Nephrolithiasis. She has published more than 20 research papers in reputed journals and has been serving as a Reviewer of repute journals.

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