

## Single centre clinical outcomes of membranous glomerulonephritis over 10 years

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**INTRODUCTION:** Membranous glomerulonephritis (MN) is the most common cause of nephrotic syndrome affecting non-diabetic adults worldwide, representing between 30-40% of patients who present with nephrotic syndrome. Untreated, 20-30% will progress to end stage renal disease whilst 30% will undergo spontaneous remission. Historically diagnosis has been made by kidney biopsy, though more recently anti-phospholipase A2 receptor antibodies (anti-PLA2Rab) have been shown to have a specificity of over 99% for MN. The aim of this evaluation was to explore the clinical outcomes of patients who presented with membranous glomerulonephritis over a 10-year period

**METHODS:** We identified all patients who were diagnosed as having MN over a 10-year period. Clinical, biochemical and treatment details were extracted from electronic patient records. Analysis of data was descriptive and Kaplan Meier curves were used to represent renal survival. We defined complete remission of MN as a protein:creatinine ratio (PCR) of less than 30mg/mmol and partial remission as a PCR<350mg/mmol with a greater than 50% reduction from peak values. Progression of chronic kidney disease (CKD) was defined as a change in at least one CKD stage.

**RESULTS:** 102 patients were diagnosed as having MN from 2008 to 2018, with 66% being men and a median age at diagnosis of 64 years. 90% had biopsy-proven MN while 10% were diagnosed solely by a positive anti-PLA2Rab. The median eGFR at presentation was 52 ml/min/1.73m<sup>2</sup> and median urine PCR was 584 mg/mmol. 82 patients had idiopathic MN, 20 patients had secondary MN, 17 of whom had cancer. Over a median follow-up of 66.5 months (range 12-185 months) 13 (12.7%) patients started on renal replacement therapy (RRT) of whom 5 have died. At the last follow up 71% of the original cohort were alive and free of RRT. Of those that remain RRT free, the latest median eGFR was 50 ml/min/1.73m<sup>2</sup> and PCR of 98 mg/mmol. At the last follow up 48% of the total cohort were in a complete remission whilst 14% were in partial remission. 52% of patients received immunosuppression of whom 26% received more than one form of immunosuppressive therapy. Of those who received immunosuppression, 19% died, 15% required RRT and 25% progressed CKD stage. 26% and 9% of the immunosuppressed patients were in a complete or partial remission respectively whilst 37% and 14% of the non-immunosuppressed group were in complete or partial remission at the last follow up. 28% of those who were not immunosuppressed had progressive CKD though only 6% have started RRT.

**CONCLUSION:** Membranous glomerulonephritis follows a variable path in terms of outcomes, ranging from spontaneous remission, partial remission and progressive CKD. Whilst 71% of patients with MN were alive and free of RRT at last follow up, just under a third of patients had progressive CKD irrespective of whether they were immunosuppressed or not. The introduction of anti-PLA2Rab as a biomarker both for diagnosis and treatment response may allow a more personalised approach to immunosuppression in the future.