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Recurrent membranous post transplantation: histopathology, treatment and outcomes

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Introduction
Membranous nephropathy is reported to recur in 30-45% of transplants. The rates of reported recurrence are higher in centres that perform surveillance biopsies than those who don't. Optimal treatment is unknown. We examined recurrent membranous nephropathy in our cohort in terms of their histopathology, treatment and outcomes.
Methods
Patients with membranous as the cause of their ESRF who were later transplanted were identified from an in-house database. Their demographic and clinical data was collected from the electronic health record.
Results
36 patients with a diagnosis of membranous nephropathy were transplanted. Mean follow up was 6.44+/- 4.2 years. 41.6% had an episode of rejection (mean time to rejection 0.42+/- 0.15 years). Overall there was 22% graft loss (mean time from transplant 6. 5+/- 3.7 years), 11% deaths (time from transplant 8.6 +/- 2.3years) and 6% deaths with functioning grafts (at 6.95 +/- 2.3 years from transplant. Mean eGFR at 3 months and 1 year post transplant were 48.06 +/- 18.5 and 48.1 +/- 14.5.
30/36 patients had at least one biopsy following transplantation. Of those whose biopsies did not show recurrence, the mean time to the most recent biopsy was 2.9 +/- 2.7 years (range 0.02-9.3)
8/36patients (22%) had recurrence of membranous nephropathy. Their demographics and transplant outcomes are shown in table 1. This was detected on an indication biopsy in 7 patients and a surveillance biopsy in 1 patient.. The mean time to recurrence was 1.9 +/- 1.9 years (range 0.09-4.46 years). Their histological data is shown in table 2. Granular C4d staining of the glomerulus was detected in 6/8 biopsies prompting immunofluorescence and electron microscopy, leading to the diagnosis of recurrent disease. Histological anti-PLA2R staining was positive in 3/8 biopsies. Only 2/7 patients were serologically anti-PLA2R positive. 2/8 patients were DSA positive.

In the 4 patients with clinically significant proteinuria rituximab was used to treat with a complete or partial response in all patients (mean time 22.5 +/- 16.2 months [range 4.4-43.8 months]). The treatment and response is shown in table 3. There are no significant differences in rejection, graft loss, death or death with functioning graft between those with recurrence and those without recurrence in our cohort.
Discussion
Recurrent membranous nephropathy was frequent but not associated with increased allograft failure in our programme, with the use of rituximab in selected cases. Granular C4d staining of the glomerulus in transplant patients with membranous nephropathy could prompt further investigation with immunofluorescence and electron microscopy to look for recurrent disease.