**INTRODUCTION:**

Renal impairment is a recognised complication of multiple myeloma, with manifestations ranging from mild chronic kidney disease to end-stage renal failure. The incidence of renal impairment at diagnosis of myeloma ranges between 20-50%. Of these, approximately 10% present with severe acute kidney injury (AKI) requiring dialysis. Advances in myeloma chemotherapy regimens and stem cell autograft transplantation have improved overall patient survival, and can result in full or partial recovery of renal function. However, there is still significant morbidity and early mortality associated with those patients who require ongoing renal replacement therapy (RRT). We reviewed the outcomes of patients with myeloma who required RRT at our centre over a 14 year period

**METHOD:**

Patients diagnosed with multiple myeloma with associated renal impairment between January 2003- December 2017 were identified. Only patients who required RRT were included in analysis. Patient data including demographics, renal indices, renal biopsy results, duration of dialysis and survival rates were obtained from electronic patient records.

**RESULTS:**

38 patients were identified who met the above inclusion criteria. Median age was 62 years (range 45-86). 53% patients were male; 76% were Caucasian. Median follow up time was 37 months (range 6 – 168 months).

55% patients required dialysis at presentation with a new diagnosis of myeloma. 21% were established on RRT within a year of diagnosis, and 24% started RRT more than 12 months after the diagnosis of myeloma. Additional factors which contributed to a need to commence RRT included infection (21%), hypercalcaemia (13%) and fluid overload (10%). Median creatinine at start of RRT was 550µmol/l (range 235-1372µmol/l). 37% of all patients underwent renal biopsy which identified: cast nephropathy (43%), amyloidosis (43%), light chain deposition disease (7%), and other diagnosis (7%).

1 year survival was 93% (N=36), and 5 year survival was 48% (N=21). 26% of all patients recovered enough renal function to come off dialysis, with a median time to dialysis independence of 9 months (range 1 week – 7 years), and median eGFR 50mls/minute (range 15-78mls/minute). 47% of all patients had died by the end of 2017; of these, 94% patients were still dialysis-dependent at time of death, with a median time on dialysis of 1 year (range <1 week to 8 years).

**CONCLUSIONS:**

In our cohort, more patients (55%) presented with AKI requiring RRT at the time of diagnosis of myeloma than in some of the published literature (10% in Evison et al, British Journal of Haematology 2016). Treatment regimens for myeloma improved in their efficacy during the course of this study, and 26% of our patients became independent of dialysis. Our data also demonstrate a positive correlation between partial recovery of renal function and reduced mortality, further reinforcing the importance of prompt treatment of myeloma in these patients.