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P084 -Distribution and impact of urological malignancies on renal progression and mortality in advanced chronic kidney disease

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Background and aims

Urological malignancies (UM) can be a cause and effect of chronic kidney disease (CKD). Understanding the associations between UM in advanced CKD can help in optimisation of the management of these two conditions. This study aimed to investigate the distribution and association of urological malignancy with outcomes (renal progression and mortality) in an advanced CKD cohort (non-dialysis dependent, CKD stage 3-5).

Methods

The study was conducted in 2637 of 3115 patients recruited to the Salford Kidney Study between the years 2002 and 2016. A comparative analysis was performed between 160 patients with UM (both prevalent and incident) and 2477 patients with no malignancy. Cox-regression models, Kaplan-Meier (KM) estimates and competing risk analysis (CRA) were used to explore the association between the presence of UM with mortality and renal outcome. Linear regression analysis was used to calculate the rate of progression of CKD in the groups. A 1:1 propensity score matched cohort was generated and used for all the above analyses.

Results

The median age of our sample was 67 years with predominance of males (63%) and Caucasians (96%). 33% of the patients had diabetes, with 90% having a history of hypertension. 30% of the patients with UM had the primary diagnosis for CKD as a kidney tumour and urological surgery while the rest of patients had other medical causes. 4.4% had a history of UM at baseline, with the annual incident rate being 0.37%. Over a median follow up of 4 years, 34% (905) of the patients died, with greater mortality in patients with UM (44% vs 34%, $p=0.01$). 30% of all patients reached end-stage renal disease (ESRD) with no difference between the groups. Cox-regression models showed a strong and independent association of UM with all-cause mortality (HR:1.77; CI: 1.21-2.6; $p=0.003$), but not with reaching ESRD (HR:1.06; CI: 0.69-1.61; $p=0.79$). The KM chart illustrates this difference in cumulative survival (log-rank, p -Value=0.042) (figure). The rate of decline in eGFR was similar between the groups (-1.04 vs -1.25 ml/min/1.73m²/year, $p=0.31$).

Conclusions

Urological malignancy showed a strong and independent association with all-cause mortality. There was no correlation observed between UM and ESRD. Even in patients with UM, the progression of renal disease is more likely to be influenced by medical causes of CKD reinstating the need for a coordinated approach between urologists and nephrologists in the management of CKD patients with UM.