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Renal Outcome in Patients with Newly Diagnosed Multiple Myeloma: Results from the UK NCRI Myeloma XI trial.

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INTRODUCTION

Renal injury is a common complication of multiple myeloma (MM) and renal impairment (RI) is associated with poorer outcomes. The treatment options and patient demographic receiving chemotherapy has changed dramatically over the last decade. We have utilised data from Myeloma XI to look at renal outcomes at 12 months, in order to assess predictors of renal outcome.

METHODS

All 4,158 patients recruited to the Myeloma XI study were included for analysis. Patients were randomised to intensive or non-intensive chemotherapy (1). Patients presenting on dialysis were excluded.
Patients with baseline and 12 month eGFR results available were included in the renal response assessment (n= 2334). A change in eGFR >=25% from baseline at 12 months, was considered significant. Patients were categorized into 3 renal outcome groups; decline in eGFR (>= 25%), improvement in eGFR (>=25%) and no change (<25% change).

RESULTS

Of the total 4,158 patients, 2,435 (58.5%) were assigned to the intensive arm, and 1,723 (41.4%) were in the non-intensive arm.
Renal function at recruitment for patients in the intensive arm were as follows; 1,514 (62%) patients had CKD stage 1-2, 658 (27%) had CKD stage 3, and 122 (5%) had CKD stage 4-5. In the non-intensive arm 757 (44%) patients had CKD stage 1-2, 708 (41%) CKD stage 3, and 134 (7.7%) CKD stage 4-5.
Renal outcome at 12 months of the 1,450 evaluable patients in the intensive arm was as follows; 204 (14%) had a decline in eGFR, 341 (23.5%) had an improvement, and 905 (62%) had no change.
Results in the non-intensive arm were similar, of the 884 evaluable patients 178 (20%) had a decline in eGFR, 161 (18%) had an improvement, and 545 (62%) maintained stable function. Patients who had an improvement in renal function had lower baseline eGFR, higher baseline dFLCs (difference between involved and uninvolved light chains) with better clonal responses.
Median follow-up for the whole cohort was 24 months (range 0 - 72.5), 407 (10%) died in the first 12 months. Median survival was longer in patients recruited to the intensive arm, 64 months (95% CI 61 to 67) vs 44 months (95% CI 41 to 48) (p = <0.01). Median survival by CKD stage in the intensive arm was 65 months, stage 1-2 (95% CI 60.5 to 71) vs 67 months (95% CI 56 to 78) for stage 3 vs 50 months for CKD 4-5 (p 0.04). In the non-intensive arm survival was 54 months for stage 1-2 (95% CI 49 to 59) vs 55 months (95% CI 45 to 65) with CKD 3 vs 37 months (95% CI 31.5-42) for patients with CKD stage 4-5 (p =0.001).

DISUSSION

Despite renal impairment being common in MM, 54% of patients recruited to this trial presented with an eGFR >60 ml/min and of those evaluable at 12 months only 16% had a decline in eGFR of more than 25%. Patients with CKD stage 4-5 at baseline had significantly shorter survival in both groups.