00540 Prognostic Utility of Continuous Linear Enhanced Assessment of Renal Cell Carcinoma (CLEAR) Score in Predicting Clinical Outcomes for Clear Cell Renal Cell Carcinoma

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Aims: We aim to evaluate Continuous Linear Enhanced Assessment of Renal Cell Carcinoma (CLEAR) score as a prognostic marker for clear cell Renal Cell Carcinoma (ccRCC).

Methodology: We retrospectively analysed 305 patients who were diagnosed with ccRCC in a single institution. The CLEAR score was derived using a previously published algorithm and obtained from tumour biopsy samples at point of diagnosis. The optimum cut-off CLEAR score was determined via receiver-operating curve (ROC) analysis after comparing best cut-offs to predict metastases, overall survival, cancer-specific survival and recurrence. The independent prognostic value of CLEAR score was examined in multivariate analyses after adjusting for Clinical TNM stage and Fuhrman Grade. Tumours were staged in accordance to AJCC staging system.

Result: Three hundred and five patients were followed up for a mean duration of 79.2 months. The patients were dichotomised into 2 prognostic groups based on the CLEAR cut-off score of 0.9 (Group A – CLEAR score <0.9, Group B – CLEAR score ≥0.9). Group B had more advanced stage disease at presentation compared to Group A ($p<0.05$ for clinical tumour, nodal, metastasis staging as well as overall stage group). Group B also had more aggressive Fuhrman grading on histology ($p<0.05$). On Kaplan-Meier analysis, Group B had worse OS, CSS and RFS compared to Group A (all $p<0.05$). Using Cox-regression analysis, Group B had worse OS and CSS compared to group A, after adjusting for clinical tumour, nodal, metastasis stage and Fuhrman grade (OS: HR = 1.78, 95% CI: 1.19 – 2.64, $p=0.005$, and CSS: HR=1.83, 95% CI: 1.15 – 2.94, $p=0.012$). There was no significant difference in RFS between the two groups, however, there was a trend towards significance (RFS: HR = 1.57, 95% CI: 0.98 – 2.52, $p=0.061$).

Conclusion: Our current study demonstrated that CLEAR score is a promising independent prognostic marker for ccRCC.