

Abstract Type : Poster

Abstract Submission No. : PO-1105

Clinical importance of renal function in patients needed stem cell transplantation.

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Objectives: Stem cell transplantation (SCT) is the cornerstone treatment for the patients with hematologic malignancy. However, its use has been limited by the increased risk of treatment related complications including acute kidney injury (AKI). There were several data that showed importance of AKI during SCT, however Korean data is limited in this field.

Methods: We retrospectively collected patients data underwent SCT between Jan 2010 and Dec. 2014 in 3rd affiliated hospital. We checked patients' renal function at three times; at hospital admission for SCT, during SCT and at hospital discharge after SCT. We defined AKI as serum creatinine level increased more than 1.5 times of baseline during SCT. Our primary outcome was 6month survival after SCT.

Results: Among the 156 included patients, a total of 47.8 % of the patients were male, and their mean age was 44.8 years. Patients' mean serum creatinine level at admission were 0.8 ± 0.5 mg/dL and eGFR were 105.7 ± 33.0 mL/min/BSA. During SCT, AKI was detected in the 6.3% of the patients. 6 month survival rate after SCT was 89.6%. When we compared patients' data between survivors and non-survivors, eGFR level at admission and at discharge were higher in survivors, however occurrence of AKI episode was not different between them. When we performed multivariable analyses, only lower eGFR at admission was significant (OR 0.977(0.958-0.997), P-value 0.021) for the prediction of 6month survival after SCT, along with the lower serum platelet level at admission (OR 0.988(0.979-0.997), p-value 0.010).

Conclusions: Unlike to the previous reports, AKI was not that frequently observed, and the relation between AKI and patient outcome after SCT was not significant in our cohort. However, initial lower eGFR level was associated with the increased 6month mortality rate after SCT. Further Korean study might be needed.