BLOOD PRESSURE CHANGE IN THE TYROSINE-KINASE INHIBITORS TREATMENT OF DIALYSIS PATIENTS WITH RENAL CELL CARCINOMA

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Introduction and Aims: Malignant tumor is more frequently occurred and a higher risk of death in dialysis patients than in general population. Especially, dialysis patients with renal cell carcinoma (RCC) have a significantly higher relative risks compared to general population (3.6 to 24.1 SIR). As dialysis period becomes longer, the kidney is replaced by more cysts and it is called acquired cystic disease of the kidney (ACDK). RCC is a grave complication arising from ACDK in long-term dialysis patients.

Recently, molecular targeted therapy is recommended for patients with advanced RCC, because that is effective therapy to prevent the progression of RCC and improve their mortality. However, there are few reports about the molecular targeted therapy for dialysis patients with RCC. Furthermore, the rise in blood pressure is one of the adverse effects due to the tyrosine-kinase inhibitors (TKI) treatment, but is not fully understood in dialysis patients.

Methods: Among dialysis patients who were admitted in our hospital from 2010 to 2013, those with RCC were enrolled. Of 32 cases, three patients were excluded from the present study. Two patients received only best supportive care because their general condition was too poor to receive an invasive surgery, 1 patient did not have sufficient clinical data because he was treated on an outpatient basis. Finally, we compared clinical characteristics, treatment strategy and blood pressure change over a 1-month period between patients with only surgery (control group, n=16) and those with surgery plus TKI treatment (TKI group, n=13). Their mean age at start of treatment was 61 ± 8 years, 76% were men, and dialysis vintage was 11.9 ± 11.4 years. Eleven of 29 patients were died and the median overall survival time was 65 months.

Results: The change of systolic blood pressure before and after treatment tended to be higher in the TKI group compared to the control group (+11.2 mmHg v.s. -3.4 mmHg, respectively, p=0.09). The change of diastolic blood pressure was slightly higher in the TKI group compared to the control group (+6.0 mmHg v.s. -0.8 mmHg, respectively, p=0.11). The number of patients with additional antihypertensive drugs were significantly higher in the TKI group than in the control group (7 patients (54%) v.s. 3 patients (19%), respectively, p=0.05), and dry weight was decreased by 2.6% in the TKI group and 1.3% in the control group (p=0.07). The percentage of patients who need management of hypertension (defined as either the additional antihypertensive drugs or the decrease of dry weight by 3% or more) was 69% in the TKI group and 25% in the control group (p<0.05).

Conclusions: Our study showed that TKI treatment was associated with blood pressure elevation especially in dialysis patients. Therefore, we should pay more attention to the change of blood pressure and control it appropriately in these patients.