

学位論文審査結果の要旨

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(学位論文審査結果の要旨)

Risk factors for cisplatin-induced acute kidney injury: A pilot study on the usefulness of genetic variants for predicting nephrotoxicity in clinical practice

【主論文審査結果の要旨】

著者らは論文において下記の内容を述べている。

Several studies have reported risk factors for predicting cisplatin-induced acute kidney injury (AKI), including old age, female sex, smoking, hypoalbuminemia, hypokalemia, hypomagnesemia, a high body surface area, advanced cancer and the total dose of cisplatin administered. Recently, some studies have focused on the associations between genetic alterations in the genes coding for renal drug transporters, such as organic cation transporter 2 (OCT2), and the nephrotoxicity of cisplatin. However, genetic variants have not been fully elucidated for clinical use. Patients who had received cisplatin (≥50 mg/m2)-containing chemotherapy as a first-line treatment were considered as eligible for the present study. The occurrence of AKI and its associations with baseline characteristics, conventional biomarkers and single-nucleotide variants (SNV) were assessed. AKI was defined as an increase in the serum creatinine level of >0.3 mg/dl or to 1.5-2 times the baseline level. Genotyping was conducted using the DMET platform (DMET Plus), which characterizes 1,936 genetic variants (1,931 SNV and 5 copy number variations) in 231 genes. Between April 2014 and June 2016, a total of 28 patients (22 men and 6 women) were enrolled. AKI

occurred in 8 of the 28 enrolled patients (28.6%). Univariate analyses demonstrated that the urinary β 2-microglobulin level and body surface area were significantly higher in the AKI group ($P<0.05$). As regards the associations between AKI and SNV, none of the examined SNV were found to be associated with cisplatin-induced AKI. The findings of the present study suggested that certain clinical factors were associated with the onset of AKI, but no associations were identified with genetic factors, including OCT2. Although this was a small pilot study, the findings indicated that genetic factors may not be of value for predicting AKI in clinical practice.

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