Poster

[P26-7] P26-7: Oncologic drugs (3): Pharmaometrics, PK/PD, special population

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[P26-7-8] Time-serum concentration profiles of cystatin C in lung cancer patients receiving CDDP-based chemotherapy

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Background

In our previous study, the transient elevation of the serum concentration of cystatin C, a marker of renal function, following cisplatin (CDDP) treatment was observed in patients with esophageal cancer. In the present study, the time-concentration profile of cystatin C in serum was evaluated in lung cancer patients treated with repetitive administration of CDDP-based chemotherapy.

Methods

Two patients with lung cancer (#1 and #2) were included in this study. The patients #1 and #2 have received 4 and 6 cycles of chemotherapy, respectively, which consisted of a 2-h drip infusion of 75 mg/m^2 CDDP and 500 mg/m^2 pemetrexed on day 1. The first blood sample was taken 1-4 days after the start of the chemotherapy, and thereafter, samples were taken at 2- to 17-day intervals. The patients received appropriate hydration and antiemetic premedication. The serum concentration of cystatin C was determined by latex immunonephelometry.

Results

In one patient (#1), the fluctuation of serum cystatin C concentrations was observed during one week after the start of the first chemotherapy cycle, and then maintained nearly constant. Within a week of starting the 2nd to 6th cycles of chemotherapy, serum cystatin C concentrations increased from 110.8 to 150.0 %, subsequently returning to baseline levels in approximately 10 days. In the other patient (#2), similar tendency of serum cystatin C concentration to elevate transiently was also observed for all cycles of the chemotherapy (120.3 to 129.2 %). In both patients, the serum creatinine levels seemed to increase gradually as the CDDP-based chemotherapy cycles were repeated, although the transient elevation after the chemotherapy was not observed.

Conclusions

The concentration fluctuations in serum cystatin C were observed during approximately 10 days after the start of CDDP-based chemotherapy in patients with lung cancer. This was unlikely to be entirely explained by change in renal function.