Oral

[O27-4] O27-4: Oncology (2)

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[O27-4-4] UGT1A1 polymorphism may be a prognostic indicator of stage I ovarian clear cell carcinoma patients treated with irinotecan

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Background

Homozygous *UGT1A1*6* and **28* or compound heterozygous *UGT1A1*6/*28* are known to be poor metabolizers of irinotecan, having a higher risk of severe adverse events. The appropriate irinotecan dose that takes into account *UGT1A1* polymorphisms is still controversial. We investigated whether *UGT1A1* polymorphisms are related with irinotecan treatment outcome of ovarian cancer.

Methods

Eleven patients of stage I clear cell ovarian cancer who received irinotecan as first-line chemotherapy were recruited to this study, and their *UGT1A1* genotypes were examined. The chemotherapy regimen included administration of 60 mg/m^2 irinotecan on days 1, 8, and 15; and 60 mg/m^2 cisplatin on day 1 repeated every 4 weeks. Progression-free survival (PFS), overall survival (OS) and adverse events were analyzed retrospectively.

Results

Three patients harbored *UGT1A1*1/*6* while another three harbored *UGT1A1*1/*28*. Five patients were classified as wild-type (*UGT1A1*1/*1*). Two patients with a wild-type genotype experienced recurrence and one died of tumor progression, whereas no recurrence or death was observed in patients with heterozygous genotypes. The median OS and PFS rates of the heterozygous group were both 88.5 months (range: 63.4–145.8 months), whereas these rates were 83.3 months (range: 44.8–149.0 months) and 83.3 months (range: 16.8–149.0 months) in the wild-type group, respectively. Heterozygous group tended to have a better prognosis because no recurrence or death occurred, although no significant difference was observed (PFS (p=0.101) or OS (p=0.221)) likely because of the small sample size. On the other hand, adverse events tended to be more severe in patients with *UGT1A1*6* and **28*. All 6 patients in the heterozygous group had neutropenia of grades 3, whereas 2 patients had grade 3 and another 3 had grade 2 neutropenia in the wild-type group (p=0.061).

Conclusions

Our results speculate that *UGT1A1* polymorphisms may be a prognostic marker of irinotecan treatment. If this results will be verified in a prospective study with a larger population, it is worth considering that the irinotecan dose can be increased to optimal levels of efficacy in *UGT1A1* wild-type patients.