Oxaliplatin as an alternative to carboplatin in tandem autologous stem cell transplant for pediatric CNS malignancies

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BACKGROUND

- Intensive chemotherapy with tandem autologous hematopoietic stem cell transplants (autoHSCT) improve survival for children with advanced CNS malignancies
- High-dose carboplatin in consolidation chemotherapy has resulted in significant sensorineural hearing loss (SNHL)

METHODS

- Retrospective review of all patients who received autoHSCT for primary CNS tumors at Children's Hospital Colorado from 2011-2018
- Medication administration records for platinum containing agents and other potential ototoxic agents extracted from electronic medical records
- Hearing tests at pre-HSCT, after each HSCT, and at follow-up visits graded per CTCAE v4.0

RESULTS

- Of 32 patients who met eligibility criteria for the study, 7 (22%) patients received oxaliplatin instead of carboplatin in one or more cycles for autoHSCT
- Patients who received oxaliplatin were significantly older at the time of diagnosis
- There was no difference in cumulative doses of systemic vancomycin, furosemide, or cisplatin in both groups
- Overall, 85 serial (non-baseline) audiograms were obtained from 27 patients (5 with no serial audiograms)

IMPLICATIONS

- While this study is limited by small size, it showed that oxaliplatin could be a potential alternative to high-dose carboplatin in preparative regimens. A larger, prospective study is warranted to confirm oxaliplatin’s safety and effect on survival and ototoxicity in pediatric autoHSCT for CNS malignancies.

DISCLOSURES

None