

Feasibility of Sodium Thiosulfate (STS) Administration for Ototoxicity Prevention During Cisplatin-Based Treatment in Adults with Head and Neck Cancer

M. A. Velez Velez¹, L. Worona², Y. T. Lee¹, O. Sanchez³, M. Dharia¹, E. Hirofuji¹, E. A. Iniguez Figueroa¹, D. K. Misiukiewicz³, W. Chai-Ho¹, and D. J. Wong¹

¹Division of Hematology-Oncology, Department of Medicine, UCLA David Geffen School of Medicine, Los Angeles, CA, ²Mount Sinai Health System and New York Proton Center, New York, NY, United States, ³Division of Hematology and Medical Oncology, Department of Medicine, Icahn School of Medicine at Mount Sinai, New York, NY

PURPOSE / OBJECTIVES

- Cisplatin-induced ototoxicity (CIO) is a common, under-addressed survivorship toxicity in adults with head and neck cancer (HNC).
- Sodium thiosulfate (STS) prevents CIO in pediatrics, but adult implementation within curative-intent workflows is poorly characterized.
- We evaluated the **feasibility, logistics, safety, and early audiologic outcomes** of delayed STS in adults receiving cisplatin-based therapy.


MATERIAL & METHODS


- Multi-institutional retrospective review (11/2024–9/2025)
- Adults with HNC treated with curative intent
 - Planned cumulative cisplatin ≥ 150 mg/m²
 - Weekly cisplatin \pm induction chemotherapy
- STS (Pedmark) administered ≥ 6 hours post-cisplatin (planned 1:1 cisplatin:STS dosing)
- Primary endpoint: **feasibility**
 - Timing adherence (≥ 6 hours)
 - Administration setting (home vs infusion center)
 - Infusion-center chair time
- Secondary endpoints:
 - Infusion-related events
 - Antiemetic escalation
 - Completion of on-treatment and post-treatment audiograms.


RESULTS

- 15 patients**; median age 59 years; 67% male
- Baseline audiograms available in 87%; 77% showed preexisting hearing loss
- Timing adherence: **100%**
- STS delivery:
 - Home infusion: 73%
 - Infusion center: 27% (median chair time 120 min)
- Safety:
 - No grade 3–4 toxicities
 - 1 hypotension event (7%), self-limited
 - Antiemetic escalation required in 67%
- Audiology:
 - During treatment: 80% without hearing loss
 - Post-treatment: 60% without hearing loss

 Delayed STS was reliably integrated into curative-intent cisplatin-based treatment workflows for adults with head and neck cancer.

 Timing adherence was universal, with most STS doses delivered via home infusion and minimal infusion-center burden.

 STS was well tolerated, with no observed grade 3–4 toxicities and manageable supportive care requirements.

 Early audiologic findings suggest a signal for hearing preservation, including among patients with preexisting baseline hearing impairment.

RESULTS

Figure 1. Operational Feasibility of STS in HNC work-flow

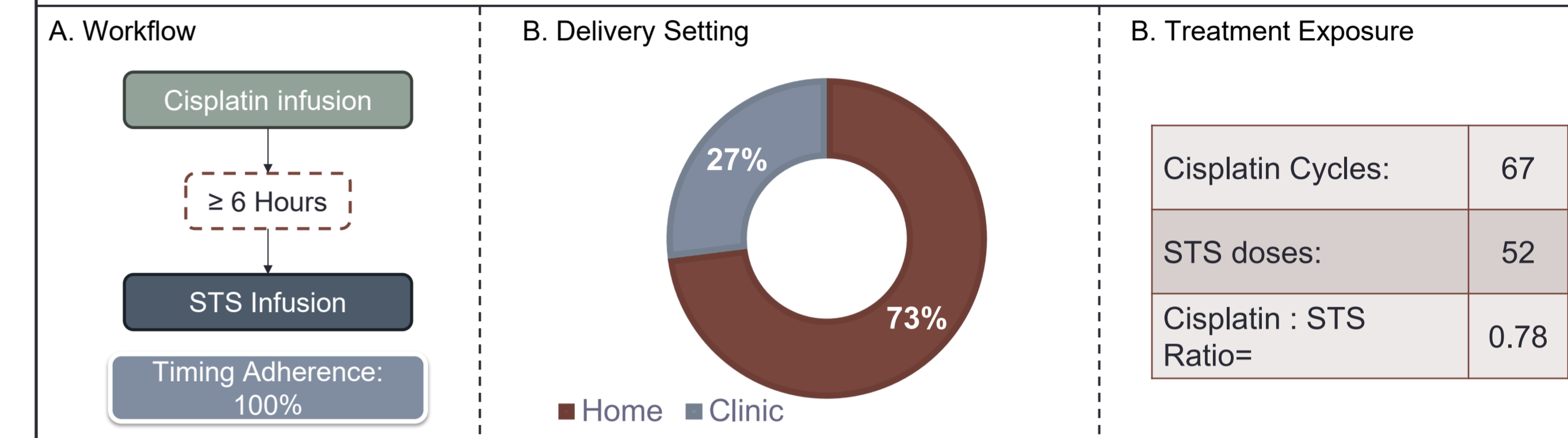


Figure 2. Safety and Audiologic Outcomes Following STS

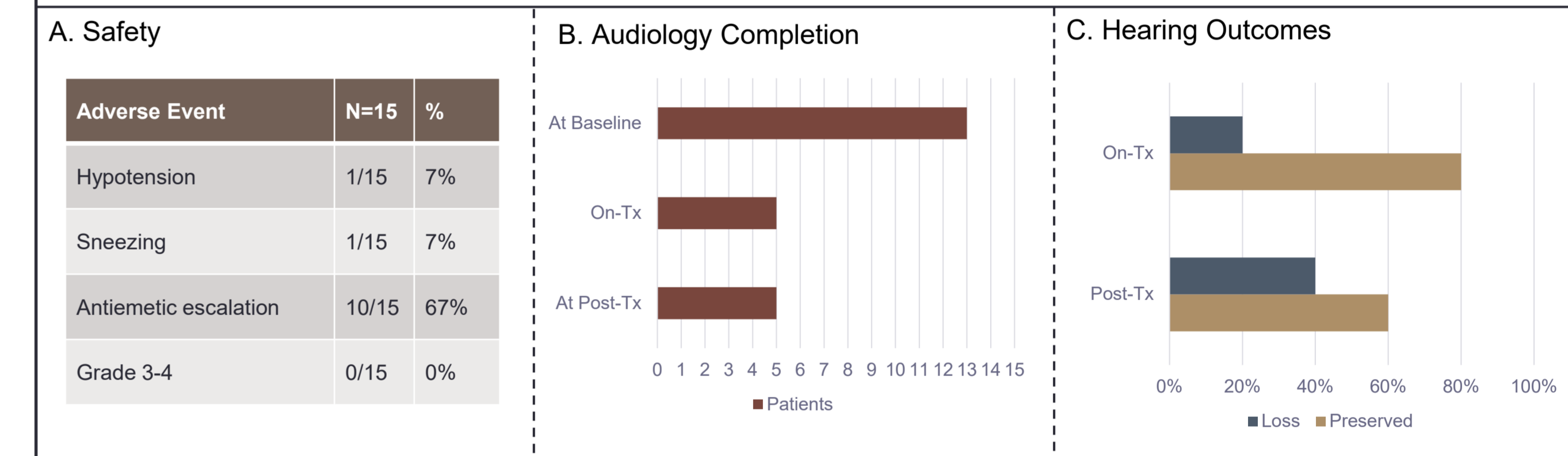


Table 1. Baseline Characteristics (N=15)	N=15	%
Median Age	59	
Male Sex	10	67%
Baseline Audiogram	13	87%
Baseline Hearing Loss	10	77%
Treatment with Chemoradiotherapy	10	67%
Induction Chemotherapy	5	33%
STS Home Infusion	11	73%

SUMMARY / CONCLUSION

- Delayed sodium thiosulfate was feasible and safely integrated into adult cisplatin workflows.
- Delivery was operationally practical, with high adherence and minimal treatment burden.
- Early audiologic findings support further prospective evaluation in adults.