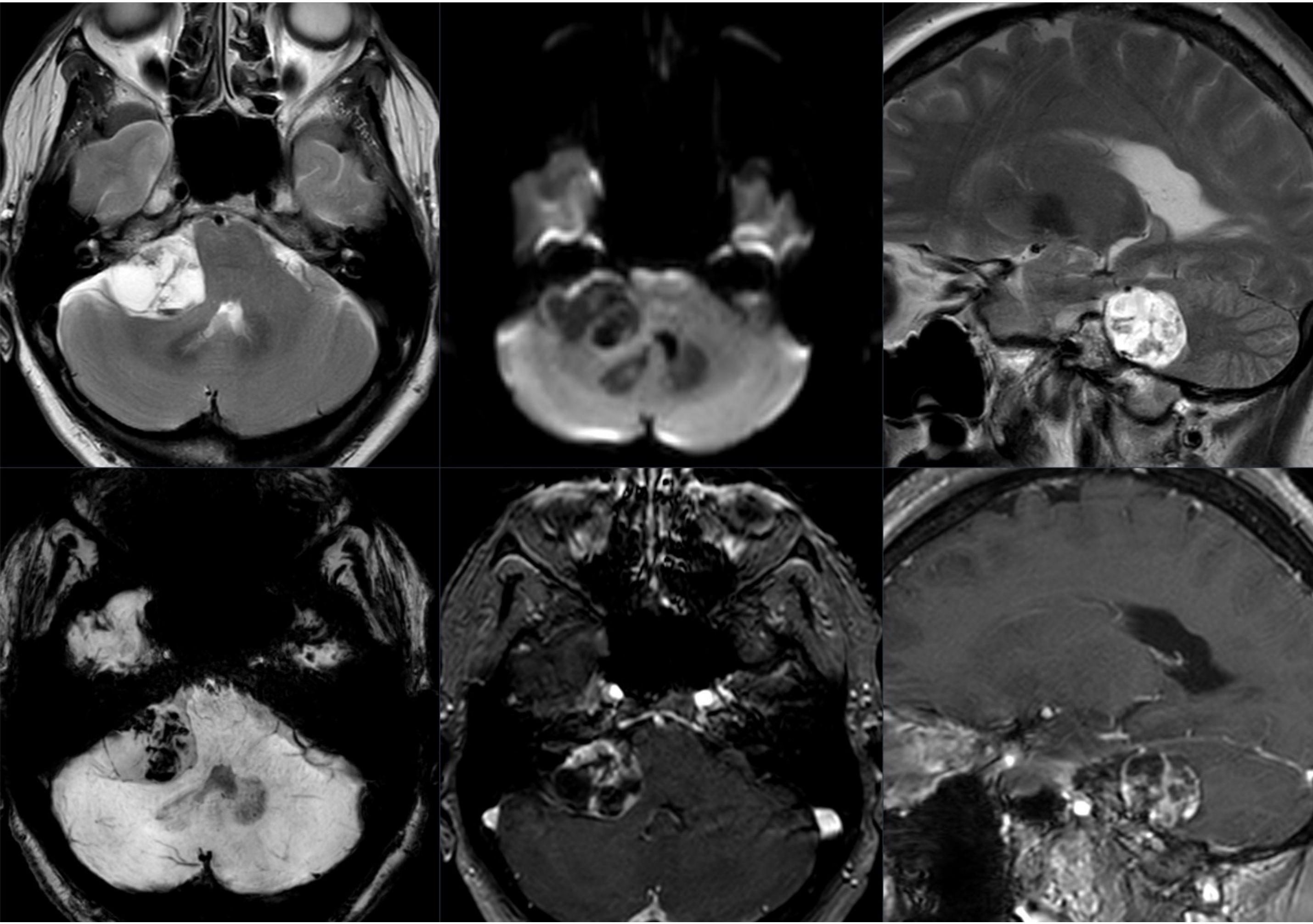


INTRODUCTION

Vestibular schwannomas (VS) are benign neoplasms that arise from Schwann cells of the vestibulocochlear nerve. Management options include microsurgical resection and stereotactic radiosurgery (SRS), each with distinct risk profiles. While microsurgery offers definitive tumor removal, it carries a higher risk of immediate postoperative complications, including facial nerve palsy and cerebrospinal fluid (CSF) leak. SRS, in contrast, provides tumor control with lower morbidity but may present delayed adverse effects.

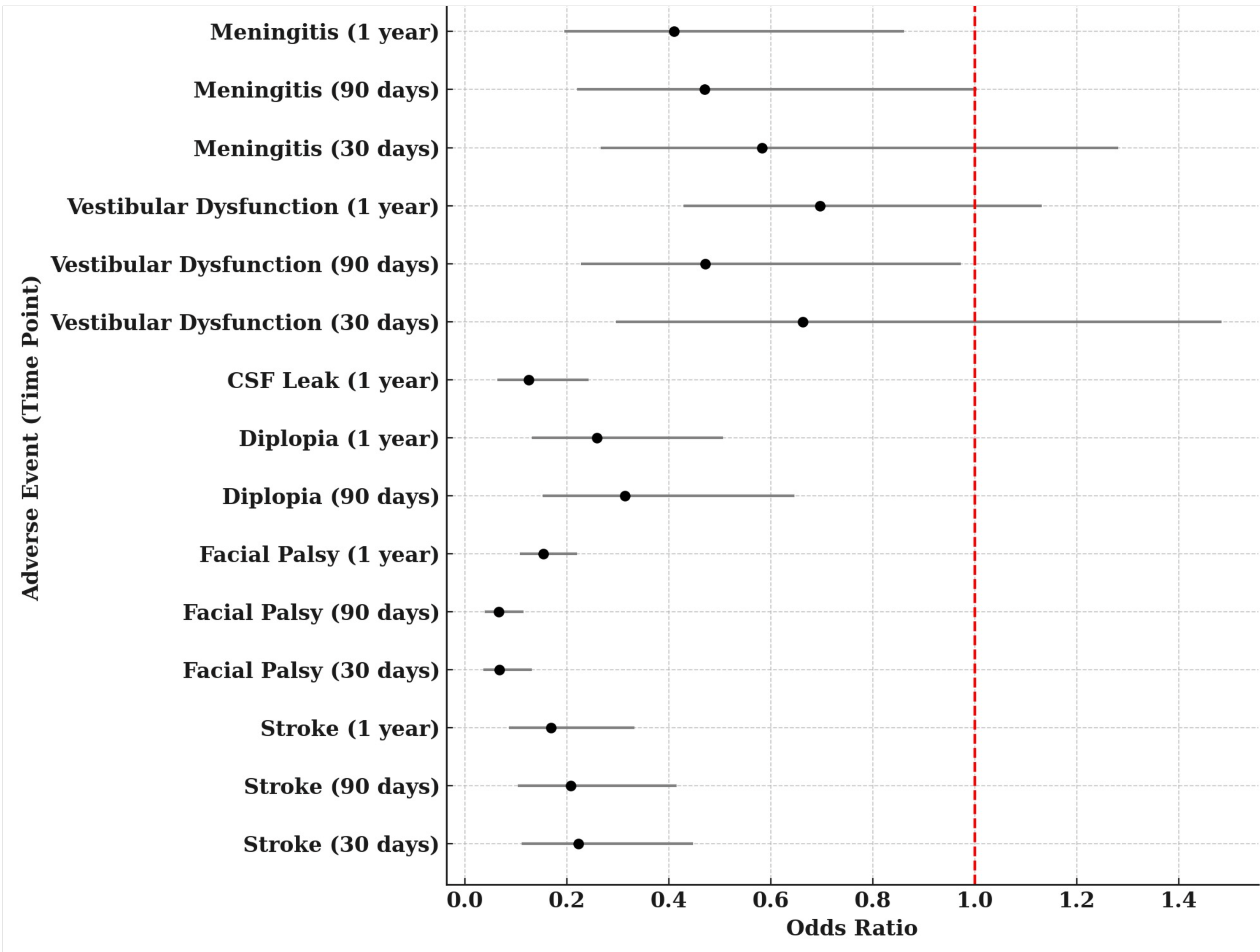
This study utilizes a large national dataset to compare short- and long-term adverse outcomes of SRS versus surgery at 30, 90, and 365 days post-treatment, aiming to provide data-driven insights into optimizing treatment selection.



Representative magnetic resonance imaging (MRI) of a vestibular schwannoma, demonstrating typical cystic and solid components across multiple sequences.¹

Results

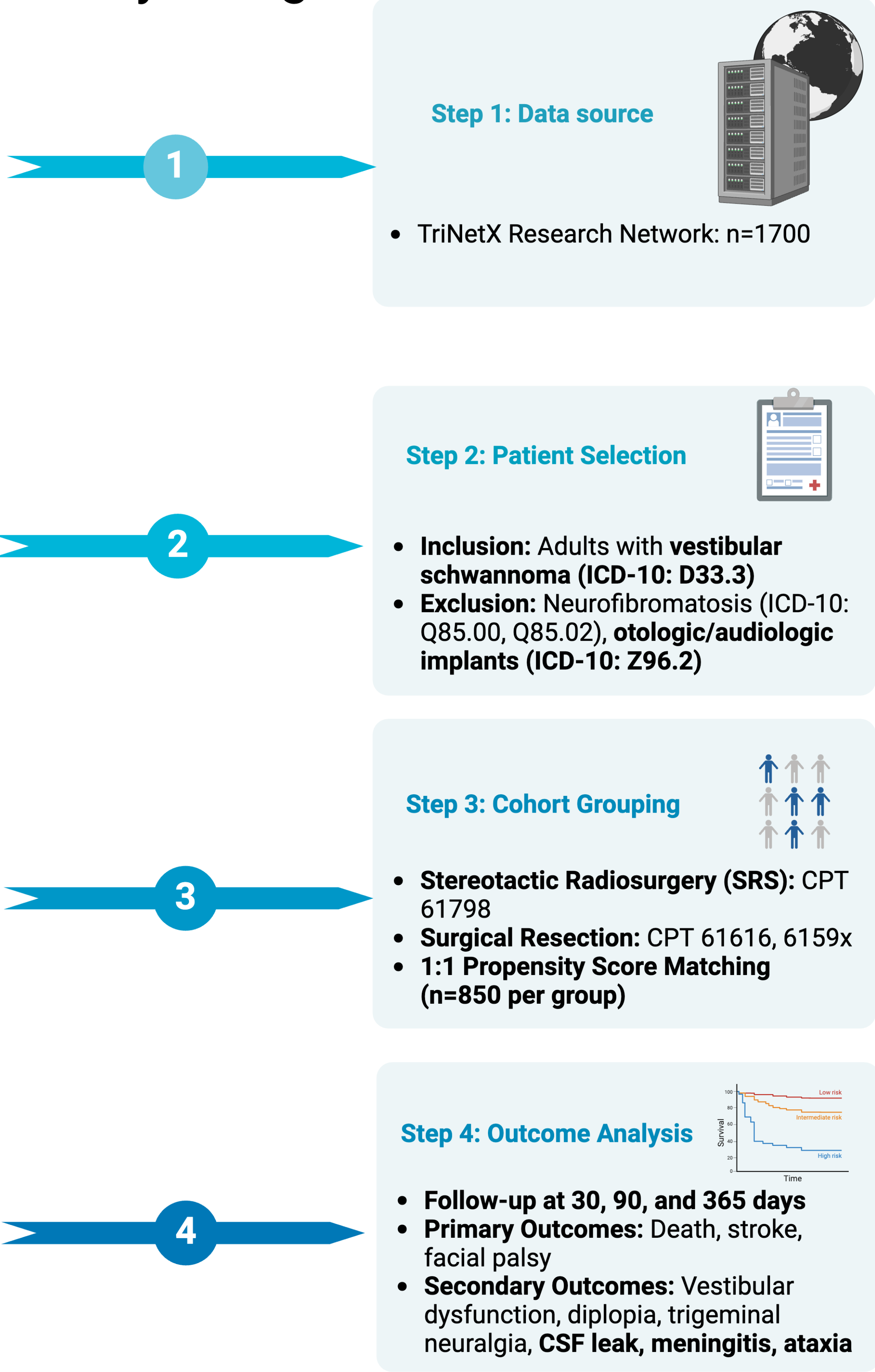
Select Post Surgical or SRS Adverse Events measured at 30 - days, 90-days, and 1-year



- SRS had lower risks of stroke, facial palsy, diplopia, and CSF leak at 30 days, 90 days, and 1 year post-intervention.
- Meningitis risk was lower in the SRS group at 1 year.
- No significant difference in vestibular dysfunction at 1 year, but SRS had lower risk at 90 days.

Methods

Study Design and Cohort Selection



Conclusion

- SRS has a lower risk of stroke, facial palsy, diplopia, and CSF leaks at 1 year, suggesting it may be a safer alternative for patients prioritizing lower perioperative morbidity.
- Surgery demonstrates higher vestibular dysfunction at 90 days, while vestibular dysfunction rates at one year are comparable.
- Lower meningitis risk in SRS at 1 year reinforces lower risk post-interval infections.
- Findings support patient-specific treatment selection, balancing tumor control, functional preservation, and long-term quality of life.

Citations

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