National Prevalence and Impact of Post-surgical Complications Associated with Vagus Nerve Injury in Vestibular Schwannoma

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INTRODUCTION

- Vagal palsy is a rarely considered post-operative complication of cerebellopontine angle (CPA) surgery.
- Recent work by Best et al. and Starmer et al. has demonstrated a prevalence of post-operative vagal palsy following CPA surgery as high as 10%.
- Vagal palsy may lead to aspiration and interfere with safe swallowing in the immediate post-operative period.
- Persistent dysphonia and dysphagia can impact long-term quality of life.
- The objective of this study was to characterize the impact of vagus nerve-associated complications using a nationwide inpatient dataset.

METHODS AND MATERIALS

- The Nationwide Inpatient Sample (NIS) database was queried for all ICD-9 codes for vestibular schwannoma (225.1, 237.7) and procedure codes for excision of acoustic neuroma (04.01) for years 2003-2008.
- Among cases of vestibular schwannoma, demographic characteristics and prevalence of diagnosis codes associated with vagus nerve-associated complications and central nervous system complications (table 1) were assessed.
- Presence of vagus nerve-associated complications, length of hospitalization, and cost were examined as dependent variables.
- Associations between variables were analyzed using cross-tabulations and multivariate regression.

RESULTS

- Of 17,281 cases, a 2.6% (443 cases) prevalence of post-operative dysphasia and 0.7% (115 cases) prevalence of vocal cord paralysis was identified.
- Post-operative dysphasia was associated with worsening comorbidity status, CNS complications, vocal cord paralysis, and non-routine discharge, but not with advanced age.
- 20.9% of patients with post-operative dysphasia required a gastrostomy tube and 3.4% required a tracheostomy.

CONCLUSIONS

- Vagus-nerve associated complications are not commonly reported and may be under-recognized by surgical providers.
- Complications associated with vagus nerve injury are associated with significant increases in hospital-related costs and length of hospitalization.
- Future studies will both prospectively assess prevalence of these complications using standardized clinical outcomes measures and cross-sectionally assess for impact on long-term quality of life after sustaining these complications.

REFERENCES