

Department of Surgery
2026 Research Day
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Title:

Tonsillar Malignancies: A National Cancer Database Comparison of Pediatric and Adult Patients

Author(s) and Affiliations:

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Background:

Tonsillar malignancies are rare in children and differ substantially from adult disease. Prior National Cancer Database (NCDB) studies have emphasized lymphoma histologies, leaving gaps in understanding of squamous cell carcinoma (SCC) across the lifespan. This study evaluates differences in histology, staging, treatment patterns, and survival among pediatric, young adult, and older adult patients with tonsillar cancer.

Methods:

A retrospective cohort study was performed using the NCDB (2004–2023). Primary tonsillar malignancies were identified using ICD-O-3 topography codes (C09.0–C09.9) and categorized by histology. Patients were stratified into Pediatric (PED; ≤21 years), Young Adult (YA; 22–50 years), and Older Adult (OA; >50 years) cohorts. Demographics, tumor characteristics, treatment modalities, and overall survival were analyzed using chi-square tests, Kaplan–Meier survival analysis, and multivariable Cox proportional hazards regression.

Results (or Preliminary Results):

Among 129,378 patients identified, 348 (0.3%) were pediatric, 22,670 (17.5%) young adults, and 106,360 (82.2%) older adults. Histology varied markedly by age: lymphoma predominated in PED patients (92%), whereas SCC accounted for over 90% of adult cases. Pediatric lymphoma patients were commonly treated with surgery and chemotherapy and demonstrated excellent outcomes (5-year overall survival [OS] 95.6%). Pediatric SCC was rare (n=11) and associated with inferior survival compared to pediatric lymphoma. In adults, HPV-positive SCC conferred significantly improved survival.

Conclusions (or Preliminary Conclusions):

Tonsillar cancer demonstrates profound age-related differences in histology, treatment, and outcomes. Pediatric disease is dominated by lymphoma with excellent survival using radiation-sparing approaches, while SCC predominates in adults and is strongly influenced by HPV status.