



52294-Pencek

52294: Concurrent Furlow Palatoplasty and Tonsillectomy for the Simultaneous Treatment of Velopharyngeal Insufficiency and Tonsillar Hypertrophy Is Safe and Does Not Compromise Restoration of Velopharyngeal Competence.

Presenter: Megan Pencek, MD

Co-Authors: James Butterfield, MD; Joseph M Escandón, MD Hannah M Smith, MD; Keith R Sweitzer, MD; Michael Catanzaro, MD; Eileen Marrinan, MS, MPH; Clinton S Morrison, MD

Affiliation: University of Rochester

Background: The primary goal of cleft palate repair is restoration of normal speech production. Cleft palate-related velopharyngeal insufficiency (VPI) is common and surgery is the mainstay of treatment. Most surgical treatments for VPI, such as Furlow palatoplasty, decrease the size of the velopharyngeal (VP) port, and in doing so incur a risk of postoperative obstructive breathing. In patients with VPI and concomitant tonsillar hypertrophy with baseline sleep disordered breathing (SDB), tonsillectomy at time of Furlow palatoplasty has been employed. Tonsillectomy itself, however, demucosalizes the pharynx and alters the size of the VP port, and it remains unclear whether this incurs increased surgical complications or compromises speech outcomes when done concurrently with Furlow palatoplasty.

Methods: A retrospective review of patient records from the University of Rochester Medical Center from January 2015 to January 2022 was conducted. Patients with cleft palate-related VPI treated with Furlow palatoplasty were identified. Patients with submucous cleft (SMC) palate who underwent primary Furlow palatoplasty for treatment of VPI and patients with prior straightline primary palatoplasty who underwent conversion Furlow palatoplasty for treatment of VPI were included. Data points included patient demographics, Veau classification, postoperative complications, and preoperative and postoperative Modified Pittsburgh Weighted Speech Scale (mPWSS) scores.

Results: Thirty-two patients met inclusion criteria. Eight patients (25%) underwent Furlow palatoplasty and concomitant tonsillectomy, while 24 patients (75%) underwent Furlow palatoplasty alone. The median age at time of surgery for the Furlow-tonsillectomy group was 6

years [IQR, 4.5-8.5] compared to 4 years [IQR, 2.75-5, $p=0.039$] for the Furlow only group. Twelve patients (37.5%) had a Veau III or IV cleft palate, 11 patients (34.4%) had a SMC palate, and 9 patients (28.1%) had a Veau I or II cleft palate. There was no significant difference in cleft palate type between groups ($p=0.431$). There was a greater number of syndromic cleft palates in the Furlow-Tonsillectomy group ($n=2$, 25%) compared to the Furlow only group ($n=0$, 0%, $p=0.01$).

There was no significant difference in preoperative mPWSS scores for patients in the Furlow-Tonsillectomy (11.5, IQR 9.75-12) versus Furlow only (12, IQR 11-14, $p=0.252$) groups. A significantly lower median postoperative mPWSS score, corresponding to better velopharyngeal function, was reported for patients in the Furlow-tonsillectomy group (0, IQR 0-0) compared to the Furlow only group (1, IQR 0-9, $p=0.046$). Nonetheless, the delta between post- and pre-operative mPWSS scores was not significantly different between groups ($p=0.743$). No surgical complications were encountered in either group. Five patients (20.8%) in the Furlow only group required an additional surgical procedure, Pharyngeal Flap or Sphincter Pharyngoplasty, for persistent VPI post-Furlow palatoplasty. No patients in the Furlow-tonsillectomy group required additional surgical treatment for VPI (0%, $p=0.16$).

Conclusion: Tonsillectomy at time of Furlow palatoplasty is utilized in patients with both VPI and baseline tonsillar hypertrophy to lessen the risk of postoperative obstructive breathing. Despite demucosalizing the pharynx and altering the size of the VP port, tonsillectomy performed concurrently with Furlow palatoplasty is safe, without increased risk of surgical complications, and does not compromise post-Furlow palatoplasty speech outcomes.