Presence of Submucous Cleft Palate in Patients with Isolated Cleft Lip and Middle Ear Dysfunction

Isabel Fairmont, MD[1], Kaitlyn Tholen, BS[2], Romney Hanson, BS[3], Bryanne Patterson, RN[2], Brian Herrmann, MD[2] and Christian Francom, MD[2]

[1]Department of Otolaryngology—Head & Neck Surgery, University of Colorado School of Medicine, Aurora, CO, USA; [2]Department of Pediatric Otolaryngology, Children's Hospital Colorado, Aurora, CO, USA; [3]University of Colorado School of Medicine, Aurora, CO, USA

BACKGROUND

- Recent studies have suggested that children with isolated cleft lip (CL) are more likely to develop middle ear disease and eustachian tube dysfunction (ETD).[1,2]
- This may be related to abnormal palatal musculature or an undiagnosed submucous cleft palate. [3]

Objective: We explored the prevalence of submucous cleft palate as well as timing of this diagnosis in children with isolated cleft lip and middle ear dysfunction.

METHODS

- Retrospective chart review of isolated CL requiring tympanostomy tubes over a 20-year period
- Syndromic patients and those with rare craniofacial clefts were excluded.
- Demographic information recorded: age, sex, race, ethnicity, cleft lip diagnosis, date of lip repair, presence of eustachian tube dysfunction or chronic otitis media, placement of tympanostomy tubes, and timing of submucous cleft lip diagnosis

RESULTS

Of the 312 children identified with an isolated CL, 29 (9.3%) required tympanostomy tube insertion. Of those, nine children (31%) were also found to have a submucous cleft palate. Tables 1 and 2 include patient demographic information and clinical characteristics, respectively. All nine patients with submucous cleft palate had chronic otitis media, with 4 having mild conductive hearing loss and 3 having moderate conductive hearing loss.

Table 1: Demographics for submucous cleft palate patients

	Patients (N = 9) Avg (SD) or N (%)
Age at CL repair in months	3.94 (1.03)
Age at tympanostomy tube placement in months	13.68 (13.8)
Female/Male	2 (22.2%) / 7 (77.8%)
Race	
Caucasian	6 (66.7%)
Asian	1 (11.1%)
Other/Not specified	2 (22.2%)
Ethnicity	
Hispanic/Latino	5 (55.6%)
Non-Hispanic/Latino	2 (22.2%)
Not specified	2 (22.2%)

Table 2: Clinical characteristics for patients with submucous cleft palate

Patient	Timing of Submucous Cleft diagnosis	Hearing loss?	Chronic OM?	Speech Therapy?	Velopharyngeal Insufficiency?
1	After CL and chronic OM/ETD	Moderate CHL	Yes	Yes	Yes
2	After CL and chronic OM/ETD	Moderate CHL	Yes	Yes	Yes
3	At time of CL and before chronic OM/ETD	Moderate CHL	Yes	Yes	No
4	After CL and chronic OM/ETD	Mild CHL	Yes	Yes	No
5	After CL and at time of chronic OM/ETD	Mild CHL	Yes	Yes	Not examined
6	At time of CL and chronic OM/ETD	Mild CHL	Yes	Yes	No
7	After CL and at time of chronic OM/ETD	None	Yes	No	Not examined
8	At time of CL and chronic OM/ETD	None	Yes	No	Not examined
9	At time of CL and chronic OM/ETD	Mild CHL	Yes	Yes	No

CONCLUSIONS

To our knowledge, this is the first study in the United States to look at rates of submucous cleft palate in children with isolated CL and middle ear disease and/or ETD. While our rates of middle ear disease/ETD are lower than has been previously cited in the literature, the prevalence of submucous cleft palate in this population is not insignificant.

IMPLICATIONS

Our results suggest that the palatal exam should be revisited to rule out an occult submucous cleft in patients with isolated CL and middle ear disease and/or ETD.

CONTRIBUTION

I participated in chart review, data analysis, abstract, and manuscript drafting.

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