Delayed Pharyngeal Flap Success: Report of a Case

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Introduction

The purpose of this article is to present a unique case of delayed pharyngeal flap success in the treatment of congenital palatopharyngeal incompetence. This is an account of a patient under continuous observation in our clinic who showed no movement of the velum/flap mechanism and persistent hypernasality for five years after pharyngeal flap surgery. At the end of five years, he unexpectedly demonstrated a full range of velum/flap elevation and total remission of hypernasality. Since we are not aware of any similar report, publication of this documented case seemed warranted.

Case Presentation

V.A. (#819) was referred to the Center for Craniofacial Anomalies (CCFA) of the University of Illinois Abraham Lincoln School of Medicine in 1961. He was a 9-year old white male with an unremarkable medical history. School records indicated normal intellectual development. There were no acute or chronic complaints other than hypernasal speech. A tonsillectomy and adenoidectomy had been performed in 1959; however, the patient's mother reported that hypernasality had been present *prior* to the T&A. There was no family history of hypernasal speech, cleft palate, or other congenital anomalies.

Physical examination revealed no submucous cleft of the hard palate, zona pellucida or bifid uvula. Speech was characterized by multiple articulation errors in association with nasal emission on pressure consonants and severe generalized hypernasality.

Roentgencephalometric analysis revealed the following:

(1) A "box-like" configuration of the nasopharynx.

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(2) Complete lack of velar elevation on phonation of /u/.
(3) Velar length at rest = 27 mm. According to Subtelny's norms (1957), the velum was one standard deviation too short ($\bar{X}$ = 30.0 mm, s = 1.9764).
(4) Velar thickness at rest = 6 mm, greater than four standard deviations too thin ($\bar{X}$ = 8.3 mm, s = .4962).
(5) Anterior-posterior pharyngeal depth = 32 mm, greater than three standard deviations too deep ($\bar{X}$ = 20.6 mm, s = 3.1633).

Results of this roentgencephalometric analysis supported a diagnosis of congenital palatopharyngeal incompetence due to a short, thin velum and excessively deep pharynx. In addition, it was recognized that the "box-like" pharynx might provide an abnormal resonating chamber, altering oral-nasal resonance balance.

A superior based pharyngeal flap was performed one year later (April 12,

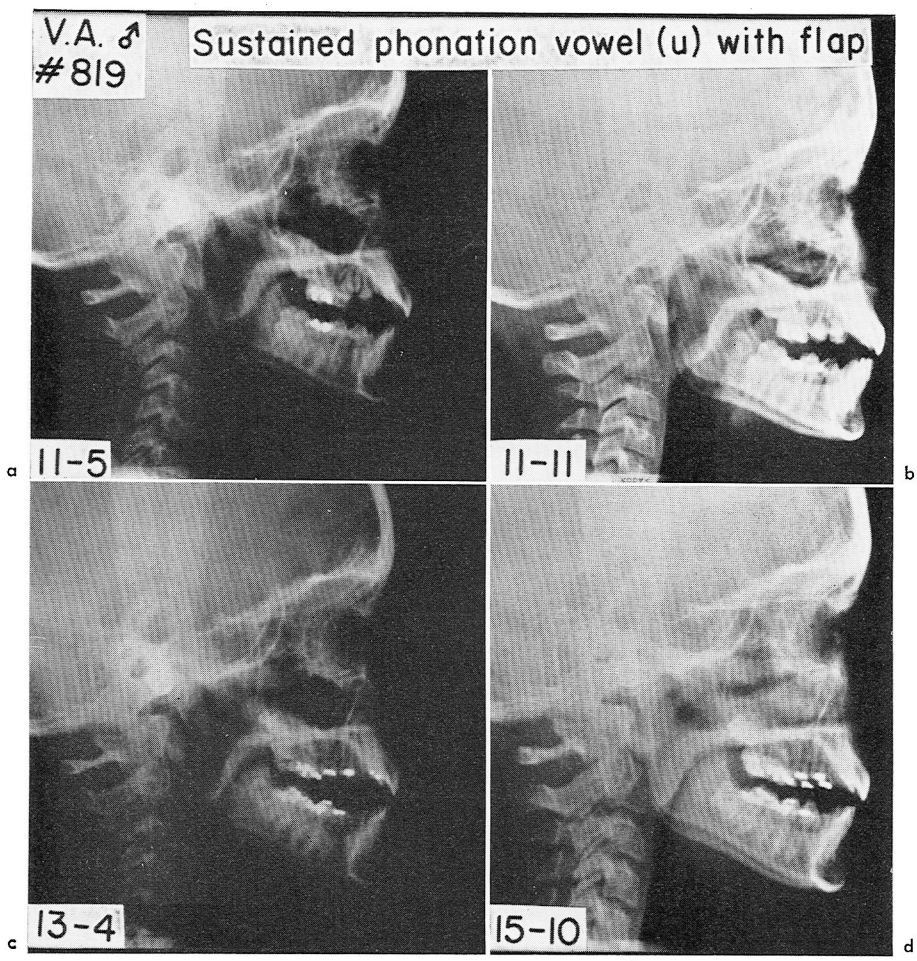

FIG. 1

1962). Following this procedure, the patient was examined at CCFA at yearly intervals. Severe generalized hypernasality and nasal emission persisted. Cephalometric analysis from ages 11-5 to 13-4 revealed an absence of movement of the velum/flap mechanism on phonation (see Figure 1. a–c).

On April 5, 1967 (five years post-operative), intra-oral inspection by the staff plastic surgeon revealed maximal increase in velar movement and mesial movement of the lateral pharyngeal walls on phonation. The staff speech pathologist reported the patient's speech to be essentially problem-free, with articulation, intelligibility, and oral-nasal resonance balance within normal limits. (The patient had received speech therapy prior to surgery and during the first two years following the procedure but therapy had been terminated 2 to 3 years prior to this examination.) Cephalometric films (see Figure 1-d) revealed velum/flap elevation on phonation.

On December 20, 1971, the patient was again examined at CCFA. The results of the previous evaluation were confirmed.

Comment

It should be emphasized that the purpose of this case presentation is not to provide hope for delayed success in unsuccessful pharyngeal flap cases. We do know that success generally does not abruptly occur several years postoperatively.

We have no explanation for the rather dramatic results in this case. The sudden utilization of the velum/flap mechanism could not be ascribed to the speech therapy, which had ceased several years before the change took place. Psychosocial factors affecting the patient's motivation for improved speech over the five-year period could not be fully assessed during our annual follow-up evaluations.

Extensive review of the literature failed to reveal any report of similar "delayed" success of pharyngeal flap surgery. This might be due to several factors: (1) Cases of this type are, most likely, rare. (2) Treatment centers might not follow the longitudinal progress of their "failures" with the same enthusiasm with which they follow their successes. (3) Clinicians might feel that cases of this type are insignificant and might therefore be reluctant to report them.

Elucidation of possible factors underlying such unique post-operative results would be facilitated by consistent and thorough longitudinal follow-up of patients regardless of the initial surgical results.

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