

ARYTENOID ADDUCTION AS AN ADJUNCT TO TYPE I THYROPLASTY FOR UNILATERAL VOCAL CORD PARALYSIS

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Abstract: *Background.* Surgical management of unilateral vocal cord paralysis has evolved over the last three decades. The recent use of type I thyroplasty has resulted in improvements in voice, swallowing, and respiration. The study was performed to evaluate our experience in 28 patients undergoing arytenoid adduction as part of their surgical rehabilitation of unilateral vocal cord paralysis.

Methods. Patients undergoing arytenoid adduction with or without silastic medialization for unilateral vocal cord paralysis were entered into a prospective data base. Evaluation included symptomatic improvement in hoarseness, aspiration, dysphagia, dyspnea, and the radiographic documentation of pneumonia. Objective evaluation included mean phonatory air flow and acoustic analysis. Complications associated with surgery were recorded.

Results. A satisfactory result was obtained in 27 of 28 (96%) patients. By symptom, improvement in hoarseness was evident in 96%, dyspnea 80%, dysphagia 94%, and aspiration 84%. Improvements in phonatory flow rate ($p < .001$), estimated mean laryngeal airway resistance ($p < .001$), and maximally prolonged phonation ($p < .01$) were identified. Complications occurred in 18% and consisted of local wound sepsis ($n = 1$), hematoma ($n = 1$), seroma ($n = 1$), and transient airway edema ($n = 2$). There

were no episodes of airway obstruction requiring tracheostomy or implant extrusion.

Conclusions. Arytenoid adduction as part of type I thyroplasty is a safe and effective procedure. Subjective analysis confirms marked improvement in laryngeal function in the form of speech, swallowing, and respiration. Objective analysis confirms improvement in voice parameters. Future directions will focus on determination of those patients best served by arytenoid adduction. © 1999 John Wiley & Sons, Inc. *Head Neck* 21: 52-59, 1999.

Keywords: unilateral vocal cord paralysis; type I thyroplasty; silastic medialization; arytenoid adduction; vocal rehabilitation

Surgical rehabilitation of unilateral vocal cord paralysis has evolved over the last three decades. For many years, the gold standard was Teflon injection into the paralyzed vocal cord.^{1,2} However, during the last two decades, considerable improvements have been achieved through the use of type I thyroplasty. Initially described by Isshiki et al,³ this technique allows for the placement of a silastic implant which medializes the paralyzed vocal cord. Additional advances have been achieved by Isshiki et al⁴ and Netterville⁵ using arytenoid adduction. This is particularly useful in patients with large glottic gaps posteriorly where

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