The Effect of Medialization Laryngoplasty on Aspiration in Patients With Unilateral True Vocal Cord Paralysis

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Introduction
Unilateral vocal cord paralysis is a common etiology in patients with dysphagia and aspiration. The etiology of the injury can be from traumatic, iatrogenic, systemic or neoplastic causes. Patients can present with symptoms of hoarseness, stridor, dysphagia and aspiration. While the treatment varies depending on the severity of symptoms, medialization laryngoplasty has become a commonly performed procedure for improvement in voice quality. However, less well defined is the effect of medialization laryngoplasty on functional swallowing and aspiration. The functional oral intake scale (FOIS) is a well-defined method for evaluating a patient's ability to swallow. The goal of this study is to elucidate the effect of medialization laryngoplasty on functional oral intake as well as the effect on aspiration.

Methods
The records of patients who underwent medialization laryngoplasty with a diagnosis of unilateral vocal cord paralysis, at a single institution, between July 2010 and July 2013 were reviewed. The effect of medialization laryngoplasty on aspiration was analyzed by using functional oral intake score, 8-point aspiration scale, laryngeal elevation and epiglottic deflection as determined by modified barium swallow study or fiberoptic endoscopic evaluation of swallow.

A total of 51 patients underwent medialization laryngoplasty for unilateral vocal cord paralysis in the 3 year span. Of those 51 patients, 12 of them had swallowing evaluation prior to and following surgical intervention with modified barium swallow study or videofluoroscopic swallow study.

The average functional oral intake score preoperatively was 3.3 with 66.7% of patients being tube-dependent. The postoperative FOIS showed statistically significant improvement to an average of 5.4 with 16.7% being tube dependent (p<0.05).

8-point aspiration scale improved from 6.36 preoperatively to 3.64 postoperatively (p<0.05). There was no statistically significant change in epiglottic deflection or laryngeal elevation.

Conclusions
Medialization laryngoplasty successfully improves both functional oral intake and aspiration symptoms in patients with unilateral vocal cord paralysis alone. Less predictable results can be expected when there are other laryngeal deficits.