

10-year experience in type 1 thyroplasty for unilateral vocal fold paralysis

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Introduction:

Unilateral vocal fold paresis can have a significant impact on quality of life due to glottic insufficiency which can result in dysphonia, aphonia, dyspnoea, decreased cough strength, and dysphagia. Our institution runs a dedicated voice clinic in close partnership with specialist speech pathology which allows a multidisciplinary approach to patient care. For those that fail diet modification and conservative measures, various medialisation procedures are available including filler injection, type 1 thyroplasty with or without arytenoidopexy and recurrent laryngeal nerve reinnervation.¹ We aimed to review the outcomes of type 1 thyroplasty performed at our institution over the past decade.

Methods:

We performed a retrospective review of all patients who underwent type 1 thyroplasty at our metropolitan institution between 01/09/2009 and 31/08/2020. The demographics, indication for operation, side of vocal fold paralysis, type of operation, rate of revision procedures, complications and both voice and dysphagia outcomes were reviewed.

Results:

A total of 29 patients were identified over the study period. Of these 17 (56%) patients were operated on by surgeon 1 and 13 (44%) patients by surgeon 2. The average age of patients was 68.5 years, with more males (n = 17) than females (n = 12). Vocal fold paralysis was most commonly found on the left (n = 25). Aetiology of vocal fold paralysis, included idiopathic (n = 3), stroke (n = 3), post surgery (n = 5), cancer (primary lung, breast, neurological and metastatic) (n = 16). All patients underwent type 1 thyroplasty, 6 patients with concurrent arytenoidopexy. Anterior neck drains were placed in 9 patients. The majority of prostheses were fashioned from silastic blocks (n = 27) and fewer cases used a Gortex prosthesis (n = 2). A number of the patients are now deceased (n = 15) with the remained either alive (n = 6) or unknown status (n = 7). The number of cases per year is shown in Figure 1 and a typical silastic prosthesis in figure 2.

Complications:

A single patient re-presented to emergency on day 4 post-op with dysphagia and mild laryngeal oedema on nasendoscopy. They were given intravenous steroids and monitored in HDU overnight without complication and discharged the following day.

A single patient required removal of their prosthesis and subsequent tracheostomy insertion due to progression of disease and bilateral vocal cord palsy.

Revisions:

Three patients underwent revision procedures. All involved removal and refashioning of the original prosthesis. One was for persistent contralateral arytenoid ulceration. In addition, one patient was scheduled for revision due to displaced prosthesis however was unable to proceed due to comorbidities.

Outcomes:

Voice outcomes were graded as poor/good/excellent based on clinical note review. Three patients had excellent voice outcomes, eleven had good voice outcomes and two had poor voice; one due to arytenoid hooding on the ipsilateral side and the other due to prosthesis migration.

Dysphagia outcomes were graded based on diet as full/modified/tube dependant from a clinical note review. Fourteen patients were on full diets, one is on a modified diet and one is PEG tube dependant. A single patient has ongoing oesophageal dysphagia.

Outcomes for the remainder of the patients were unable to be sourced as they were in archived paper records.

Limitations:

Given the retrospective nature of the study there were a number of missing variables as the study period commenced prior to the electronic record and some paper notes had been archived. Additionally, outcomes were subjective as no consistent formal objective measure is used at the voice clinic.

Conclusion:

We found overall good improvement in voice and dysphagia outcomes. The clinic activity and number of thyroplasty operations continues to increase in 2020 with four operations on the waiting list. Analysis of these results will be used to target quality improvement strategies in our dedicated voice clinic.

References:

1. J.F. Ha, Unilateral vocal fold palsy & dysphagia: A review, *Auris Nasus Larynx*, <https://doi.org/10.1016/j.anl.2020.03.001>

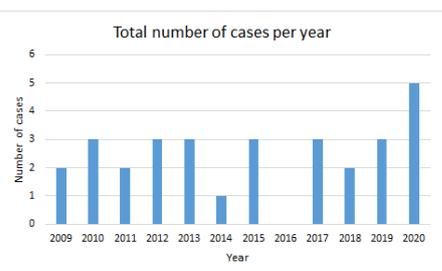


Figure 1: Number of cases per year

Figure 2: Silastic prosthesis