

RESTORING AIRWAY PATENCY IN BILATERAL LARYNGEAL PARALYSIS SPARING PHONATORY AND SWALLOWING FUNCTIONS BY MINIMALLY INVASIVE LATERAL CORDOTOMY AND VOCAL FOLD LATEROFIXATION

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Introduction: Bilateral vocal fold paralysis (BVFP) is a life threatening condition and a therapeutic dilemma. Surgical glottic widening might cause permanent impairment of the phonatory and sphincteric functions if excessive tissue is removed.

Material and methods: A mini-invasive modification of the permanent Lichtenberger laterofixation technique was performed to treat bilateral laryngeal immobility in 12 adults (age 40-62 years) and 2 children (3-4 years). Ten patients had post-thyroidectomy BVFP (PT- BVFP); 1 child and 1 adult had posterior glottic stenosis due to post-intubation scarring (PGS), 1 adult had Guillain-Barré syndrome and 1 child was affected by sensorimotor polyneuropathy. All patients underwent CO₂ laser posterolateral cordotomy, partial submucosal vaporization of the vocal muscle and laterofixation with closure of the cordotomy wound by Lichtenberger needle carrier in 13 cases and by external transcutaneous approach in 1, to avoid any raw surface and to avoid healing by secondary intention.

Results: Adequate airway patency was restored in the 10 patients with PT-BVFP, while the 2 PGS patients had recurrence of the glottic stenosis. The 2 patients with neurological syndromes showed widening of the posterior glottis but could not be decannulated. No postoperative dysphagia or severe dysphonia occurred in any patient; only one patient had voice quality deterioration while 9 had a voice improvement, demonstrated by Voice Handicap Index questionnaire and by Maximum Phonation Time measurements. Suturing the vocal fold cover prevented granuloma and re-stenosis. The respiratory improvement was not only due to glottic widening but also to rigidity of the treated fold which prevented inspiratory collapse. The 3 post thyroidectomy BVFP tracheostomized patients were decannulated and tracheostomy was avoided in the remaining 6 ones. A voice quality improvement was obtained after surgery in 8 of the 9 PT-BVFP.

Conclusions: The technique proved to be successful in restoring airway patency for BVFP secondary to peripheral lesion of the recurrent laryngeal nerves respecting the laryngeal sphincteric function and improving voice quality.