Early trans-thyrohyoid injection laryngoplasty under local anaesthesia in a single tertiary center

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ABSTRACT

Introduction: The objective of the study is to assess the voice outcomes in patients with unilateral vocal fold paralysis (UVFP) following early percutaneous trans-thyrohyoid injection laryngoplasty under local anaesthesia. Methods: Retrospective study with twenty-nine cases of UVFP of less than 6 months duration, underwent injection laryngoplasty under local anaesthesia were reviewed. All patients were injected with 0.5-1 ml Juvederm ULTRA XC (Allergan Industrie, France), a hyaluronic acid based material, via trans-thyrohyoid approach using a double bend 21G needle under local anaesthesia. Subjective assessment by Voice-Handicap Index (VHI-10); objective assessment by maximum phonation time (MPT); and acoustic analysis of jitter, shimmer and noise-harmonic ratio (NHR) were used as the measurement of multidimensional voice outcomes. They were assessed at baseline 2 weeks pre injection, 1 month, and 3 months post injection. Results: The mean age of the entire case series (n=29) was 44.69(13.41) with the female to male ratio of 3.14:1. Statistical analysis of the voice outcomes of VHI, Jitter, and NHR were assessed using repeated measures ANOVA, depicted significant improvement from baseline to 3 months post injection laryngoplasty with VHI, Jitter and NHR (P<0.001) while shimmer (P=0.005) and MPT (P=0.018). None of the patients had serious complications like upper airway obstruction, allergic reaction or hematoma formation following the procedure. Conclusion: Percutaneous trans-thyrohyoid injection laryngoplasty under local anaesthesia in carefully selected patients is a safe modality with high success rate for the treatment of glottic insufficiency evidenced by our series of subjective, objective and acoustic analysis.