Transoral injection augmentation of vocal fold – Hong Kong experience

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Information/ Background

Injection augmentation of vocal fold is a well-established treatment option for glottic insufficiency. It can improve both voice and swallowing symptoms. Transoral injection allows good visualization of the injection needle and avoids the need of needle puncture and manipulation over the neck. However, transoral approach under local anaesthesia is relatively unpopular in Hong Kong and many other Asian countries. This may be due to the lack of single use transoral injection kit in these areas. ENT surgeons adopting the awake transoral approach will need to source for a suitable injection instrument before they can perform awake transoral injection for patients. The benefit of this injection approach in Asian population was not well established. We report our clinical experience on this approach and determine its successful rate, complication rate and effectiveness in our region.

Materials and Methods

Retrospective review of the medical records of 37 cases of transoral injection augmentation of vocal fold under local anaesthesia over a period of 25 months from March 2017 to March 2019 was performed.

The procedure was done with the patient sitting, fully conscious without the use of any sedation. Some of the cases were performed in clinic setting while some in the operating theatre. The nose and throat were first anaesthetized with topical application of Co-phenylacaine Forte® spray (Lignocaine 50mg/ml + phenylephrine 5mg/ml). Flexible laryngoscopy with working channel was then inserted through the nose to confirm the diagnosis of glottic insufficiency. The pharynx and larynx were then anaesthetized with 2% lignocaine solution. The 2% lignocaine solution was given in a systematic fashion by a drip catheter passing through the working channel of the endoscope under direct visualization. Restylane® (Q-MED AB, Uppsala, Sweden), a commercially available form of cross-linked hyaluronic acid, was used for the augmentation. An orotracheal injector (Medtronic, Jacksonville, FL) was used to inject the hyaluronic acid into the vocal fold under direct endoscopic visualization. Patient was then asked to phonate to assess the immediate result and guide the amount of further injection. Further injection was done to achieve slight over-correction.

Results

During the study period, 37 injections in 34 Chinese patients were performed. Their ages ranged from 24 to 83. 29 patients were suffering from unilateral vocal fold paralysis and 5 patients from vocal fold atrophy. 36 injections were successfully done (97.3%). There was one case of injection failure due to unfavourable anatomy. No significant complication occurred during or after the procedures in all of these injections.

Among the 31 cases of successful unilateral injection for vocal fold paralysis, Voice Handicap Index – 10 (VHI-10) was reduced in 29 cases (93.5%). The mean change of VHI-10 was a drop of 13.6. Maximum Phonation Time (MPT) was lengthened in 28 cases (90.3%). The mean change of MPT was an increase of 4.2 seconds.

Bilateral injection was performed in 5 cases of vocal fold atrophy. VHI-10 was reduced in 4 cases (80%). The mean change of VHI-10 was a drop of 8.2. The MPT was increased in 3 patients and remained the same in 2 patient. The mean change of MPT was an increase of 2.2 seconds.

Conclusion

Transoral injection augmentation of vocal fold under local anaesthesia is a safe and effective approach with high successful rate in treating Chinese patients with unilateral vocal fold paralysis and bilateral vocal fold atrophy. This approach should be promoted and popularized in Asia.