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YO-IFOS Surgical Video

Simplified technique of in-office secondary tracheoesophageal puncture with immediate voice prosthesis placement under transnasal esophagoscope guidance

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Tracheoesophageal puncture (TEP) and voice prosthesis placement have been utilized for voice rehabilitation of total laryngectomy patients. TEP may be performed in primary or secondary settings [1]. Secondary TEP is traditionally performed in the operating room under general anesthesia or deep sedation, and rigid esophagoscopy is used for direct visualization [2,3]. Recently, secondary TEP performed in an office-based setting under local anesthesia has been proposed [2]. A transoral or transnasal and flexible esophagoscope or gastroscope is used to obtain direct visualization of the esophageal lumen during the procedure [4,5]. Additionally, a double-lumen central venous catheter set or percutaneous endoscopic gastrostomy set is utilized to insert a voice prosthesis in an antegrade or retrograde manner to avoid inadvertent damage to the posterior wall of the esophagus and to minimize the trauma during the TEP procedure and voice prosthesis insertion [1,4,5].

Our senior author has developed a simplified in-office secondary TEP with immediate antegrade voice prosthesis insertion using Provox Vega with a smart inserter (Atos Medical AB, Hörby, Sweden) under transnasal esophagoscopy guidance. This video aimed to describe this technique along with its advantages and disadvantages.

The patient is seated upright on the examination chair in the otolaryngology clinic. One milliliter of 1% lidocaine with 1:100,000 units of epinephrine is injected into the midline of the posterior wall of the trachea. The patient's nasal cavity is sprayed with 4% lidocaine and 0.5% phenylephrine and pledgets soaked in these solutions are inserted into the nasal cavity for anesthesia and vasoconstriction. An incision site at the posterior tracheal wall is

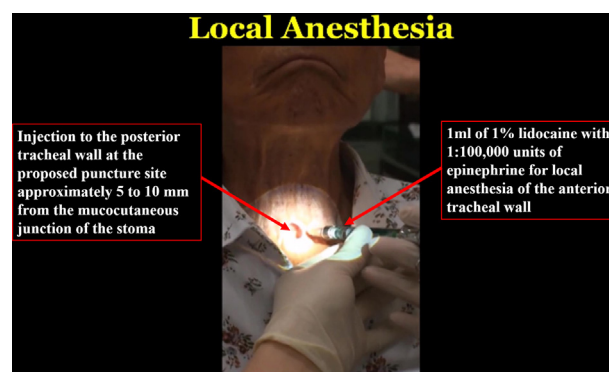


Fig. 1.

marked approximately 1 cm below the mucocutaneous junction of the superior stoma (Fig. 1). After 5 minutes, an electrocautery incision is made at the posterior tracheal wall until the esophageal wall is encountered (Fig. 2). The inserted pledgets are removed and the flexible esophagoscope (EE-1580 K, Pentax Medical, Uithoorn, The Netherlands) is passed through the more patent nasal cavity to view the cervical esophagus. The cervical esophagus is distended by continuous insufflation from the esophagoscope to directly visualize the electrocautery tip entering the anterior esophageal wall and to protect the posterior esophageal wall from inadvertent injury during the TEP. The exact site of the TEP is ensured by endoscopic visualization of the movement of the anterior esophageal wall during palpation. TEP is performed under direct visualization of the esophagoscope (Fig. 3), and the esophageal entrance is dilated using a curved mosquito. The anterior wall of the esophagus is kept widened, using the mosquito for guidance, and the voice prosthesis

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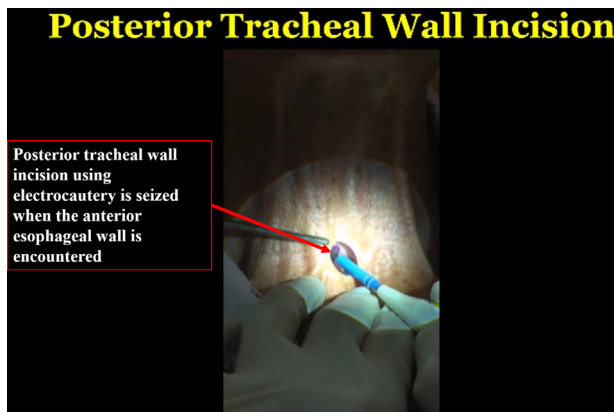


Fig. 2.

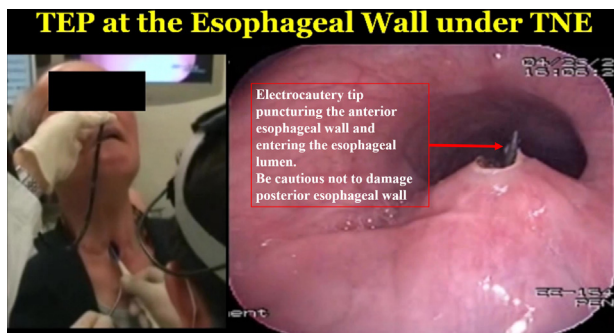


Fig. 3.

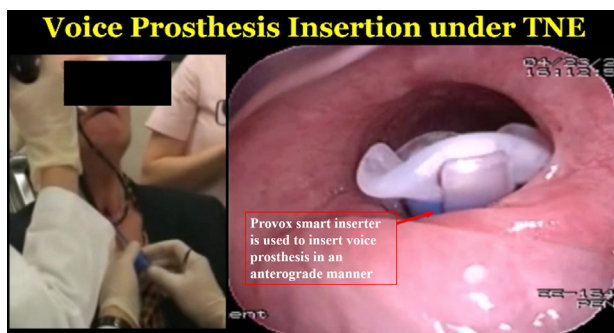


Fig. 4.

(Provox Vega and Smart Inserter, Atos Medical, Hörby, Sweden) is inserted in an anterograde manner under direct visualization using an esophagoscope (Fig. 4). After the prosthesis is placed in an adequate position, the esophagoscope is removed and the procedure is completed.

Our video demonstrates a simplified secondary TEP using transnasal esophagoscopy, which can be performed safely and effectively under local anesthesia and in in-office settings. Viewers of this video may consider our technique as a feasible option for in-office secondary TEP and immediate voice prosthesis insertion.

Disclosure of interest

The authors declare that they have no competing interest.

Appendix A. Supplementary data

Supplementary data associated with this article can be found, in the online version, at <https://doi.org/10.1016/j.anorl.2021.04.008>.

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