

Tracheoesophageal Puncture Outcomes and Predictors of Success in Laryngectomised Patients

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Abstract

Introduction: Prosthetic voice restoration has been widely used for vocal rehabilitation in laryngectomised patients. The objectives of this study were to examine success rates, predictors of success and complications for our patients who had undergone tracheoesophageal punctures (TEPs) and voice prosthesis placement after laryngectomy. To our knowledge, this is the first analysis of the use and complications of TEPs in Singapore. **Patients and Methods:** Thirty-eight patients seen in our centre were analysed in this retrospective case review. Factors analysed included voice quality with age, timing of insertion, type of closure, use of radiotherapy, regular maintenance and attendance at our clinic. Twenty-eight had undergone primary TEP surgery and 10 had undergone secondary TEP surgery for voice restoration after laryngectomy for cancer. Thirty-five patients had primary closure of the pharynx with 13 vertical, 19 horizontal and 3 T-shaped closures. The other 3 patients required reconstructive surgery. Thirty-five patients had radiotherapy. A numerical assessment of voice production was made of patients immediately and at 6 months post-insertion. A review of the complications was also done. **Results:** TEPs provided a fair to good voice in 74% of our laryngectomees. Patients who attended the voice restoration clinics and who regularly cleaned their prostheses were found to have statistically better voices ($P = 0.044$ and $P = 0.002$, respectively). Patients less than 60 years old had better results, as did patients with horizontal or T-shaped closures; however, these were not statistically significant. Secondary TEPs provided fair/good voices in 90% of cases compared to 68% of primary TEPs. Voice quality during radiotherapy was diminished but recovered at 6 months post-radiotherapy. The commonest complications noted included crusting (seen in 40% of cohort), candida infections and leaks which were seen in 16% of our patients. There was no mortality attributable to the use of TEPs in our study.

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