

Chirurgiczna rehabilitacja głosu chorych po laryngektomii całkowitej z zastosowaniem systemu Provox

The surgery voice rehabilitation after total laryngectomy with the Provox system

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Summary

The aim of study. Comparison the voice quality of patients after total laryngectomy using the Provox 2 voice prosthesis and patients with esophageal speech and to discuss difficulties and complications related with its implantation. **Material and methods.** The study group consists of 39 patients after total laryngectomy and Provox puncture. 36 patients underwent primary puncture, 3 patients — secondary puncture. 32 patients underwent radiotherapy. The time starting of speech learning was approx the 9th day after total laryngectomy and 1st-3th day after secondary implantation. The authors subjectively and objectively analyzed voice of 34 patients with fistular speech and it compared with esophageal speech of 10. The spectrograms analysis of the voice was based on Remacle's scale. The study showed juxtaposition of early and late complications of patients with voice prostheses. **Results.** 90% of patients (35 patients) learned the fistular speech. The speech was louder and more intelligible than esophageal voice in subjective estimation. The fistular voice had higher of mean volume (61,1 dB vs. 59 dB), mean longer maximum phonation time (9,5 s vs. 2,2 s), mean higher base frequency F0 (108 Hz vs. 87Hz) and smaller variability of F0 based on mean Jitter ratio (3,8% vs. 6,6%), mean Shimmer ratio (23,18% vs. 23,52%) and mean HPQ ratio (127,34 vs. 141,73) than esophageal voice in objective estimation. Mean range of frequency of the speech was smaller but it was in higher frequencies. The most frequent type of spectrogram was 3th type in experimental group and 2nd type in control group. The mean lifetime of prostheses was 295 days. The most common cause of replacement of the prosthesis was leakage associated with mycosis infection (26 cases). Early complications were observed. The most frequent of them was infection around the fistula during supplementary radiotherapy (7 cases after primary puncture). The most frequent of later complications was widening of fistula and leakage around prosthesis (4 cases). **Conclusions.** Rehabilitation of patients after total laryngectomy is better using Provox system than learning esophageal speech (according to voice quality aspect). Using of voice prostheses in patients after total laryngectomy can combine with appearance of complications.

