

VOICE CHARACTERISTICS AFTER RECONSTRUCTIVE LARYNGECTOMY

Thesis

Submitted for partial fulfillment of M.D Degree in Phoniatics

Presented by

Rehab Abd- El Hafeez Zaytoun

M.B.B.CH., M.Sc Cairo University

Supervised by

Prof. Dr. Mohamed Sadek Rifai

Professor of Otorhinolaryngology

Faculty of Medicine, Cairo University

Prof. Dr. Hossam Mohammed El Dessouky

Professor of Phoniatics

Faculty of Medicine, Cairo University

Prof. Dr. Sahar Saad Shohdi

Professor of Phoniatics

Faculty of Medicine, Cairo University

Prof.Dr. Dalia Mostafa Othman

Professor of Phoniatics

Faculty of Medicine, Cairo University

Faculty of Medicine

Cairo University

2015

SUMMARY

Head and neck cancer, particularly laryngeal cancer causes pain and dysphagia, it also impedes speech, breathing, and social interactions. Treatment of laryngeal cancers, may include surgery, radiotherapy, chemotherapy, or a combination. Total laryngectomy (TL) has been the standard surgical treatment which results in significant anatomic and functional alterations such as a permanent tracheostoma and loss of laryngeal voice. Partial laryngectomy procedures were performed for early glottis tumors, their advantage over TL is preservation of laryngeal functions.

The patient's self- perception has gained an increasing importance in both clinical and scientific medicine in recent years, The European laryngological society (ELS) recommends a comprehensive assessment of impairment, disability, and handicap in patients with voice disorders including the measurement of patients' self-perception of their dysphonia. Up till now, several assessment tools were introduced into clinical routine with the voice handicap index (VHI) as the "gold standard". It is a questionnaire with 30 items in its original version.

The present study deals with methodical aspects of how to measure self-perception of dysphonia in patients who were treated by total laryngectomy and supracricoid laryngectomy (SCL).

Quality of life is now regarded as being just as important as survival time as a criterion of success. As a result, interdisciplinary

care of surviving cancer patients ("survivorship care") is now evolving into a separate subspecialty of oncology. The perception is that laryngeal cancer treatment modalities are disabling and have a detrimental effect on an individual's quality of life (QOL). Unfortunately, very little information is available concerning the differences in QOL outcomes among patients treated with total laryngectomy versus SCL. This study determined significance differences in QOL and VHI scores among the 2 groups.

Postsurgical voice quality after supracricoid partial laryngectomy (SCPL) is an important issue that can influence therapeutic decisions concerning patients with carcinoma of the vocal folds. The voice is always modified after SCPL surgery, and the extent of dysphonia can vary markedly between patients. It is currently hard to determine correlations between voice proficiency and the anatomic conformation and virtually impossible to predict how a patient's voice will perform after undergoing SCPL.

The study was designed to evaluate the effect of surgery on the laryngectomees patients during daily life speech communication, the test material was chosen in a way resembling real life situations through testing conversational spontaneous speech and wasn't done through reading a standard passage or a word list as both of them don't reflect the real daily communication activities.

The phonatory ability of the residual larynx has to be completely re-estimated, due to the altered anatomo-physiology of the structure after surgery, in fact, the residual larynx determines a

definitely reduced periodic acoustic signal, rich in noise. Good phonatory results of this treatment are basically due to preservation of intelligible speech which, by ensuring the subjects' speech ability, overcomes and has little influence on the disturbed quality of the vocal signal in these patients. However, the patient obtains a "new voice" as far as concerns acoustic features and this is very important for communication and social life.

The concept of the new larynx necessitated the creation of a new perceptual assessment protocol which should be widely used in correlation to the findings of the acoustic analysis. Moreover, the possibility of objectively estimating acoustic vocal function ability allows monitoring of the trend and results of possible speech therapy and/or phonosurgical rehabilitation treatment which should start from new anatomical and physiological bases, as well as from the new physical acoustic mechanism of signal production. Pre and post operative orientation for the cancer patients is of crucial importance to facilitate their acceptance of the different treatment outcomes.