

*Written by*

Assoc. Prof. Dr. Georgi Petkov Iliev, MD, PhD - Otorhinolaryngologist, habilitated in the professional domain 7.1 Medicine, Medical University - Varna, member of the "Neurosurgery and Ear-Nose and Throat Diseases" Department, Faculty of Medicine, Medical University "Prof. Dr. Paraskev Stoyanov" - Varna, member of Scientific Jury, according to order N<sup>o</sup>R-109-438 / 07.10.2021.

*Regarding*

Thesis on „Voice rehabilitation with voice prostheses in post-laryngectomy patients“ for the award of educational and scientific post-graduate degree „Doctor of Philosophy“ in the PhD program “Otorhinolaryngology”, professional domain 7.1. Medicine, field of higher education: 7. Health care and sports.

*Author of the thesis*

Dr. Asen Georgiev Asenov, MD, PhD student in an independent form of study in the doctoral program "Otorhinolaryngology"

*Scientific Supervisor*

Assoc. Prof. Dr. Nikolay Sapundzhiev, MD, PhD

**General presentation of the procedure**

The procedure has been submitted in fulfilment of the requirements for a postgraduate degree "Doctor of Philosophy" according to the Law on the Development of Academic Staff in the Republic of Bulgaria and the Regulations of the Medical University - Varna, the provided set of materials on paper and electronic media is complete and in compliance.

**Brief biography of the PhD student**

Dr. Asen Georgiev Asenov is a graduate of the High School for Foreign Languages "Georgi Kirkov" in Plovdiv. In 1997 he graduated with honors his master's degree in Medicine from the Medical University of Plovdiv. In 2003 he acquired specialty in ENT diseases. Since 2011 he has a master's degree in Public Health and Health Management.

Since 2009 dr. Asen Asenov is the Head of the ENT Department at the University Hospital "Plovdiv", also an assistant professor at the Department of ENT Diseases at the Medical University of Plovdiv.

He is married with 2 children.

He is fluent in English and Russian, speaks Italian and French.

**Relevance of the topic**

The presented dissertation is relevant in that it presents a solution regarding the socialization and quality of life of the post-laryngectomy patients, with the reproduction of speech through voice prostheses.

**Awareness of the problem**

Dr. Asenov shows excellent knowledge of the problem by making a comparative critical analysis between a standard method for placing voice prostheses with an esophagoscope according to Haslinger with hollow trocar, venous catheter, guiding device and the modified Lichtenbergerger-Brown technique with endo-

extralaryngeal needle holder, laryngoscope, nelaton catheter and sharply pointed scalpels. The method of video fluoroscopy was also introduced as a method for determining the size of the prosthesis and the position of its inner flange.

A phonetic comparative analysis was made between Esophageal speech (ES) and speech with Voice prostheses (VP).

### **Methodological approach of the research**

The 'Material and Methods' section is 12 pages long and detailed. The candidate has examined 51 patients (47 men and 4 women) in two centers: the ENT department at UMHAT "Plovdiv" and the ENT clinic at UMHAT "St. Marina", Varna. Both the standard and the modified Lichtenberger techniques have been used to form tracheoesophageal fistulas. The main indications and contraindications for the execution of tracheoesophageal fistula have been determined. After the fistula formation in the period between the 24th and the 48th hour, the prosthesis is placed, and in most cases the patient will be able to speak up to 30 minutes after the procedure. The average lifespan of the prosthesis is 185 days, and the replacement of the prosthesis is performed under local anesthesia within 5 minutes.

### **Characteristics and evaluation of the dissertation**

The presented thesis is structured in fulfilment of the requirements for a postgraduate degree 'Doctor of Philosophy'. The study is presented in 114 pages and structured in the following sections: Introduction, Literature review, Aim and tasks, Materials and methods, Results, Discussion, Conclusions, Contributions of scientific-theoretical and scientific-practical nature, Publications related to the dissertation, illustrated within 20 figures and 1 table. The bibliography consists of 185 sources related to the research, of which 11 in Cyrillic and 174 in Latin, and a significant part of the cited publications are from the last 10 years - another sign of the relevance of the dissertation.

### **Contributions and significance of the thesis to the fields of science and practice**

The following conclusions that can be drawn from this dissertation: Voice prostheses are still underrepresented worldwide as are also in Bulgaria, although they are defined as the "Gold Standard" for voice rehabilitation of post-laryngectomy patients. This study provides a well informative and structural basis for the ENT specialists in the country.

The PhD student has identified 5 contributions of original and scientific-practical nature, introducing an original modified Lichtenberger method for tracheoesophageal fistulation, which avoids complications such as injury and penetration through the posterior wall of the esophagus.

### **Evaluation of the scientific publications on the topic**

The volume of the articles and publications in connection with the thesis is completely sufficient, presented at scientific forums in Bulgaria and abroad. Dr. Asenov presents 3 full-text publications (2 of which are in foreign journals; as he is the first author of two of them) and 4 scientific papers (2 of which in international forums).

### **Author's summary of the dissertation**

The author's thesis summary is presented on 54 pages as it meets the requirements for structure and content and reflects the main results, conclusions and

contributions obtained in the fulfillment of the purpose and objectives of the dissertation.

### **Conclusion**

The PhD student, Dr. Asen Georgiev Asenov, has theoretical knowledge in-depth and professional skills in the scientific specialty "Otorhinolaryngology", presents an excellent and completed theoretical - empirical thesis.

The dissertation presented for my review is a completed large-scale study of a current problem of scientific and applied significance.

The dissertation fulfills all the requirements of the Law for the Development of the Academic Staff in the Republic of Bulgaria and the requirements and regulations of scientific development of MU-Varna for obtaining the educational and scientific degree "Doctor of Philosophy". The significance and original contributions presented in the dissertation give me a strong reason present my recommendation to the esteemed jury to award Dr. Asen Georgiev Asenov the educational and scientific degree "Doctor of Philosophy" in the PhD program "Otorhinolaryngology", professional domain 7.1. Medicine, field of higher education: 7. Health care and sports with code 03.01.35.

29.11.2021  
Varna, Bulgaria

Reviewer:  
Assoc. Prof. Dr. Georgi Petkov Iliev, MD, PhD

