

LIMITS OF CONSERVATIVE SURGERY IN THE TREATMENT OF LARYNX CANCER

M.D. Cobzeanu¹, Daniela Rusu¹, Camelia Cobzeanu¹, Mihaela Moscalu¹, G.I. Comşa²

¹ University of Medicine and Pharmacy, "Gr. T. Popa" Iași

ENT (Ear, Nose and Throat) Department of "St. Spiridon" Clinic Hospital Iași, Romania

² "Ovidiu" University, ENT Clinic Hospital Constanța, Romania

LIMITS OF CONSERVATIVE SURGERY IN THE TREATMENT OF LARYNX CANCER (Abstract): The authors present a study about indications, limits and types of functional surgery applied in the treatment of larynx carcinoma. Method: This paper represents a retrospective comparative analysis between the cases solved in ENT (Ear, Nose and Throat) Departments of the Universities of Iași and Constanța in a period of 5 years (1999-2003). There were diagnosed 571 cases (325 cases in Iași and 246 cases in Constanța). The tumors were evaluated by clinical, radiological and anatomopathological exams prior to decide therapy. We specified histologic grading and staging necessary to propose partial laryngectomies. The vertical partial laryngectomy (V.P.L.) and supraglottic laryngectomy (S.G.L.) are indicated in large T1 tumors, T2 without extension to the anterior commissure, both arytenoids or subglottic space and some T3 cases without invading the body of arytenoids or hyperlarynx. The partial laryngectomy is also indicated like salvage surgery for local recurrences after radiotherapy. Results: 77 patients received different types of partial laryngectomies. There were presented the oncological results: surgical complications, recurrences and survival rate. Conclusions: We considered that partial laryngectomies by external approach were useful in the treatment of well selected cases, depending on the surgeons experience and patient's agreement.

KEY WORDS: LARYNX CANCER, PARTIAL LARYNGECTOMIES

Correspondence to: Mihail Dan Cobzeanu MD, PhD, e-mail cobzeanu@mail.dntis.ro*

INTRODUCTION

The laryngeal neoplasm have an increasing frequency in the last five years, with an important socio-economic impact. An early diagnosis permit us to apply a functional surgical management [1].

Many different types of conservative laryngeal surgery determined us to reanalyse the functional and oncological results, obtained in the context of the different types of treatment used in the management of early larynx neoplasm stages [2].

MATERIAL AND METHODS

The authors make a retrospective study on the cases with laryngeal cancer admitted and solved on a period of 5 years (1999-2003) in the ENT (Ear, Nose and Throat) Department of "St. Spiridon" Emergency Clinic Hospital of Iași (325 cases) and the ENT Clinic Hospital from Constanța (246 cases).

The functional surgical treatment of laryngeal malign lesions was difficult to perform because of the poor adreability of patients with a delayed diagnosis, in advanced stages, favorized by different factors: prolonged exposure to varied noxes, alcohol, smoking, poor oral hygiene and also nuclear irradiation post Cernobâl.

The study was made on a representative lot of patients coming from a large geografic area of Romania and allowed us to draw some important conclusions concerning the possibility to apply a functional surgery in well selected cases of laryngeal carcinoma detected in early stages.

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We noticed a preponderance of male subjects (539 cases) and only 32 cases were females with a higher incidence between 51 and 70 years old (386 cases) and a decreased incidence under 30 years (33 cases) and up to 70 years old (61 cases) (Fig. 1).

The histopathological exam showed carcinoma in 565 cases, lymphoma in 5 cases and sarcoma in 1 case (Fig. 2).

Macroscopically, we noticed the vegetative form in 416 cases, ulcerovegetative form in 95 cases and infiltrative form in 68 cases. There were 43 cases with malignant laryngeal papilloma (Fig. 3).

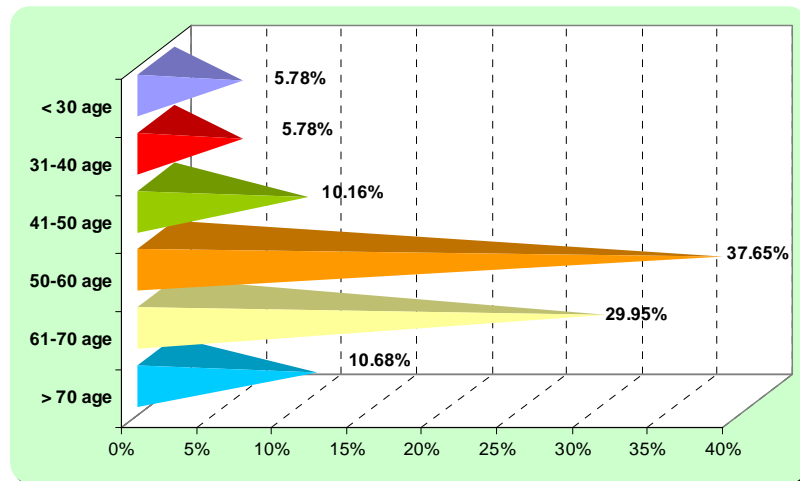


Fig. 1 Distribution of larynx neoplasm cases according to age

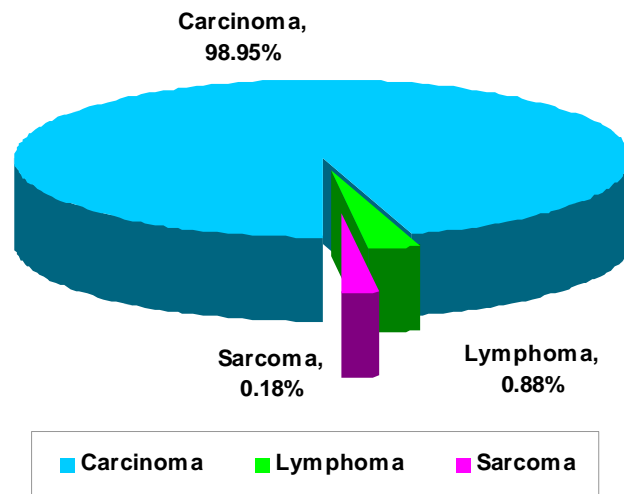


Fig. 2 Distribution of larynx neoplasm cases according to anatomopathologic results

The following procedures were systematically performed for assessing TNM classification: cervical echography, computed tomography (CT), magnetic resonance imaging (MRI), thyroid scintigraphy. We consider that CT is the preferred imaging technique for evaluation the locoregional tumoral extension.

The ditribution of cases with laryngeal neoplasm according to tumoral stages was: 31 cases in stage I, 82 cases in stage II, 331 cases in stage III, 127 cases in stage IV (Fig. 4).

Most of the cases were detected in advanced stages so that conservative surgery was performed only in 77 cases.

In this paper the authors present the role of indications and types of partial laryngectomies by external approach applied for the treatment of early larynx cancer in the both ENT University Departments.

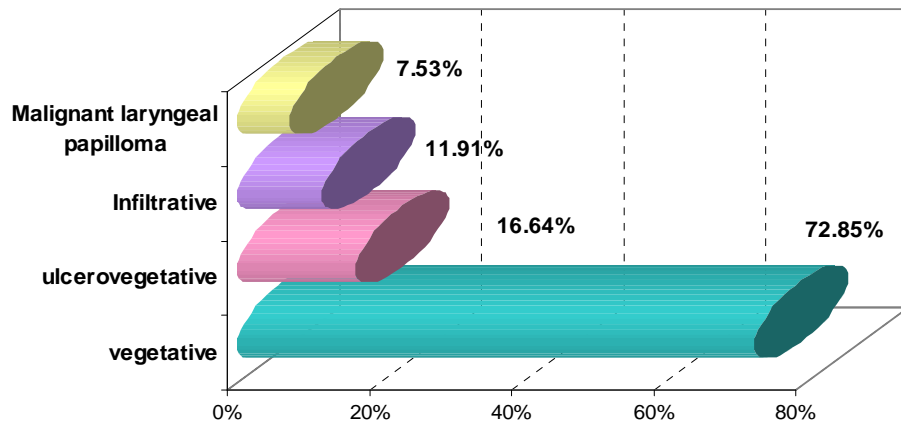


Fig. 3 Distribution of larynx neoplasm cases according to macroscopical aspects

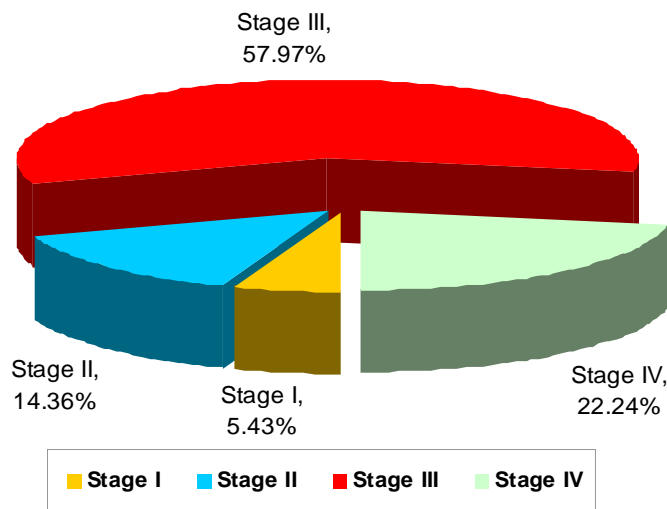


Fig. 4 Distribution of larynx neoplasm cases according to tumoral stages

There were 62 vertical partial laryngectomies (VPL):

- 47 cordectomies;
- 3 anterior frontal laryngectomies with epiglottoplasty;
- 9 hemilaryngectomies Hautant type;
- 3 hemiglottectomy Guerrier;
- and 12 supraglotticpartial laryngectomies (SGL):
- 9 Alonso type;
- 3 Huet type.

In 3 cases with stage III: cricohyoidopexy Labayle type was performed (Fig. 5).

In this paper, we did not discuss about endoscopic functional surgery or about oncologic radical therapy applied in advanced stages.

In early stages, the primary radiotherapy was applied in 36 cases, followed by salvage partial surgery for radiotherapeutic failure in 5 cases (salvage surgery).

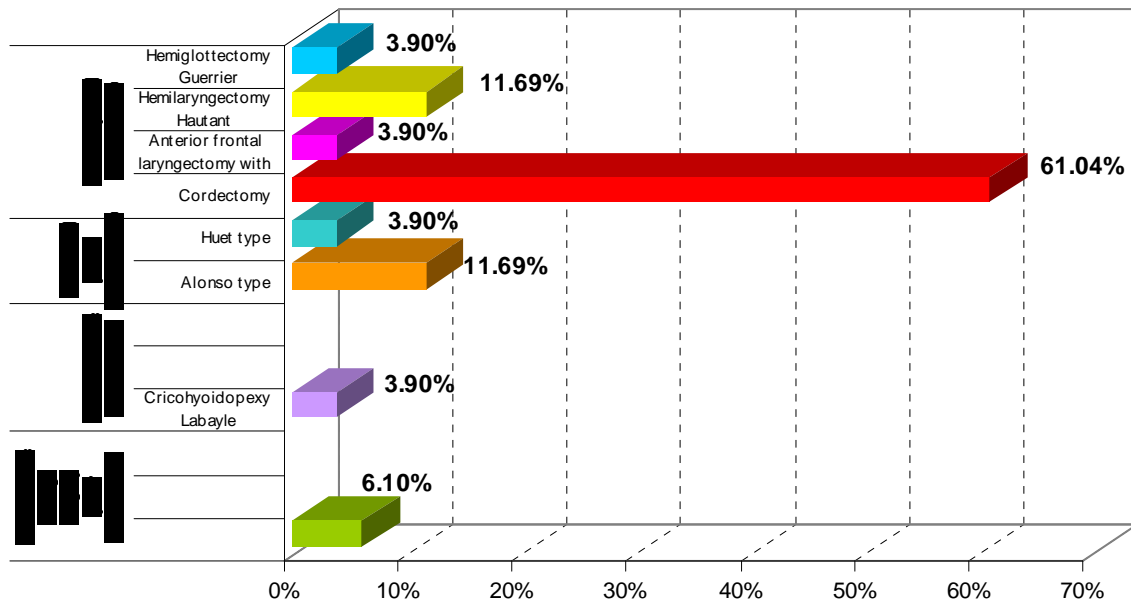


Fig. 5. Incidence of larynx neoplasm cases in early stages solved by conservative surgery

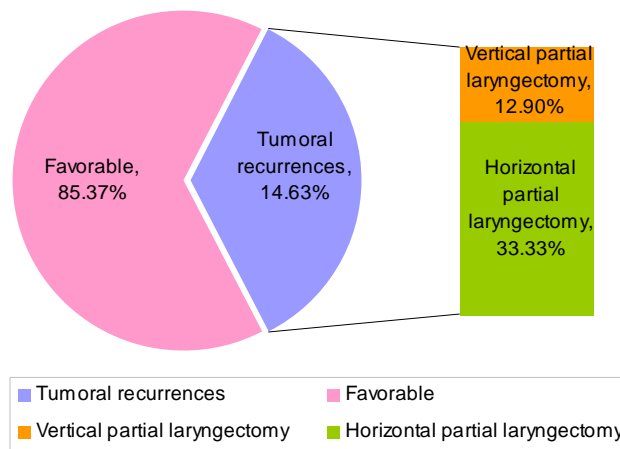


Fig. 6 Therapeutical results after conservative surgery

RESULTS AND DISCUSSION

The study of the 77 cases solved by different types of partial laryngectomy and also the 5 cases solved by conservative salvage surgery after radiotherapy shows that the results were favourable in 70 cases.

Tumoral laryngeal recurrences appeared in 12 cases, 8 cases after VPL and 4 cases after SGL. (Fig. 6)

The postoperative complications after different techniques of partial laryngectomy were as follows:

- perichondritis in 4 cases,
- subcutaneous emphysema in 8 cases,

- pulmonary infections in 3 cases,
- laryngeal stenosis in 3 cases,
- edema of arytenoids and posterior commissure in 2 cases,
- wound breakdown and pharyngeal fistula in 2 cases (Fig. 7).

Successful rehabilitation of deglutition is an important feature after conservation surgery, especially when postoperative irradiation is employed.

After horizontal partial laryngectomy, tracheal decannulation and nasogastric alimentary tube removing were possible within 14-21 days in 6 cases and 30-35 days in 4 cases.

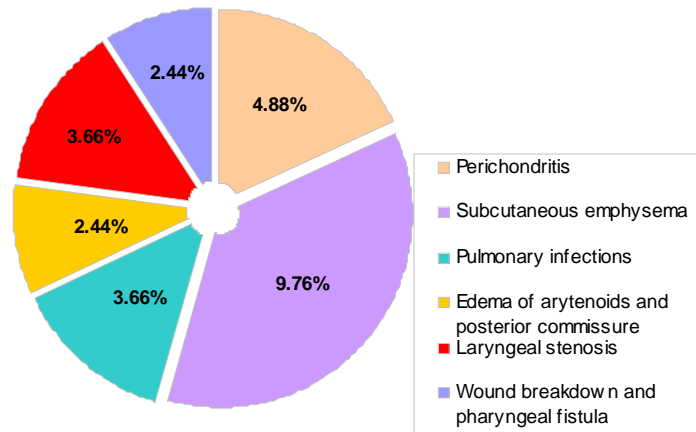


Fig. 7 Distribution of complications after conservative surgery

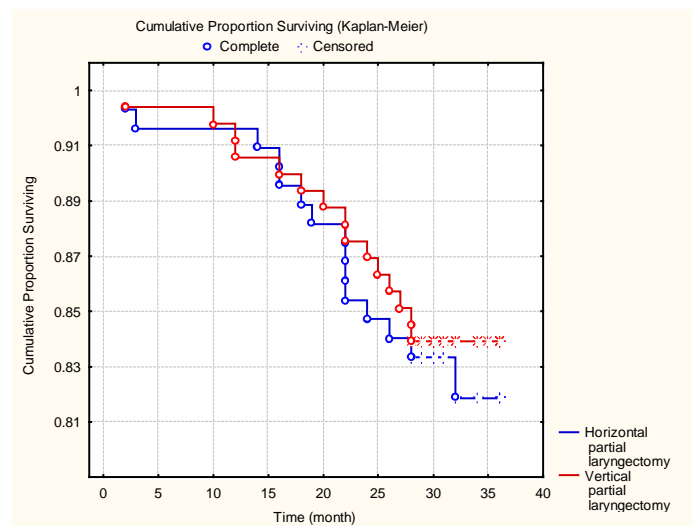


Fig. 8 Survival rate of the cases solved by conservative surgery

The salvage surgery by total laryngectomy was required for repeated tracheal aspiration and respiratory complications in 2 cases.

After vertical partial laryngectomy tracheal decannulation was usually possible within 2-7 days. Cricopharyngeal myotomy was performed in 3 cases after horizontal partial laryngectomy in order to improve the rehabilitation of swallowing which was possible within 14 days. The local and regional tumoral recurrences were detected in 8 cases after vertical

partial laryngectomy and in 4 cases after horizontal partial laryngectomy and required total laryngectomy and functional and radical neck dissection.

The 3 years survival rate was 90,3% (56 cases) after vertical partial laryngectomy and 83,3% (10 cases) after horizontal partial laryngectomy (Fig. 8); this survival rate is similar with other published reports [1-5].

CONCLUSION

This retrospective study including 571 patients coming from a large geographical area and solved in two representative ENT Departments of Romania allowed us to estimate the results of conservative laryngeal surgery applied in the 77 studied cases.

We considered that CT scanner and MRI and also other modern imaging techniques were useful in establishing the tumoral extent and the laryngeal cancer staging in order to decide the therapeutic approach.

The possibility of larynx reconstruction after partial procedures by external approach represents an advantage by permitting a superior quality of voice and by avoiding the postoperative laryngeal stenosis.

In case of tumoral lesion involving anterior commissure we perform a frontal anterior laryngectomy with epiglottoplasty Tucker type.

We consider that the deglutition problems and the risk of chronic aspiration can be avoided by cricopharyngeal myotomy, after supraglottic partial laryngectomy.

The local tumoral recurrences after irradiation in stages I-II should be solved by functional partial salvage surgery.

Our therapeutic results and survival rate are similar with those from other published reports.

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