



LASER ENDOSCOPIC MICROSURGERY FOR THE TREATMENT OF SUPRAGLOTTIC CANCER

Pinto, José Antônio MD; Godoy, Luciana MD; Marquis, Valeria MD; Brunoro, Michelle MD; Bellotto, Silvana MD; Gasques, Cris MD

Nucleus of Otolaryngology and Head and Neck Surgery of Sao Paulo, Brazil
Hospital e Maternidade São Camilo - Pompéia - São Paulo - SP

Introduction

The endoscopic treatment of laryngeal cancer has improved with the development of surgical microscope and CO2 laser. Lynch (1920) was the first author to present good results in endoscopic treatment of laryngeal cancer using suspension laryngoscopy and diathermy. With the development of the surgical microscopy in Laryngology, advocated by Kleinsasser in the late sixties, a great improvement in the diagnosis and endoscopic treatment of laryngeal lesions was possible. Gradually, laryngeal cancer endoscopic resection techniques were widely performed all over the world with even better therapeutical results.

Objective

To report our experience in endoscopic treatment of supraglottic cancer with CO2 laser.

Materials and Methods

From 1979 to 2004 at Nucleus of Otolaryngology Head and Neck Surgery of Sao Paulo, 16 patients of with supraglottic cancer underwent CO2 laser microsurgery.

Supraglottoscopes were used and laser was used in the initial incision in the aryepiglottic fold level. The epiglottis was pulled and the incision surrounded the vallecula mucosa. Sometimes, this anterior incision reached the hyoid bone, involving as much adipose cell tissue of the preepiglottic space as possible.

Resection of the entire supraglottic lesion was performed with the objective of en bloc removal. In some cases, the epiglottis midline was incised to allow its partial resection or to analyze the depth of tumoral infiltration.

Postoperative evaluations with nasopharyngolaryngoscopy were done monthly during the first year, bimonthly during the second year and every three months after the third year.

Results

From the 16 patients with supraglottic cancer, there were 7 (44%) T1, 2 (12%) T2 and 7 (44%) T3. 9 patients with T1 and T2 stages were submitted to endoscopic surgery with CO2 laser (figure 1 and 2). One patient had local recurrence and cervical metastasis 6 months after surgery and underwent supraglottic laryngectomy with neck dissection with good results. One patient had cervical metastasis 13 months after surgery and was submitted to neck dissection successfully. The one-year survival rate (Kaplan-Meier method) was 77.8% for T1 and T2 patients ($\pm 0,139$ SD). The therapeutic success index was 100% considering the treatment of the local recurrence or of the metastasis with a 48-month follow-up.

Supraglottectomy with CO2 laser was performed to analyze the preepiglottic space and to allow the tumor staging. All T3 supraglottic tumors had preepiglottic invasion and underwent supraglottic laryngectomy with neck dissection.

Discussion

The development of surgical microscopy and the CO2 laser allowed the endoscopic treatment of the laryngeal

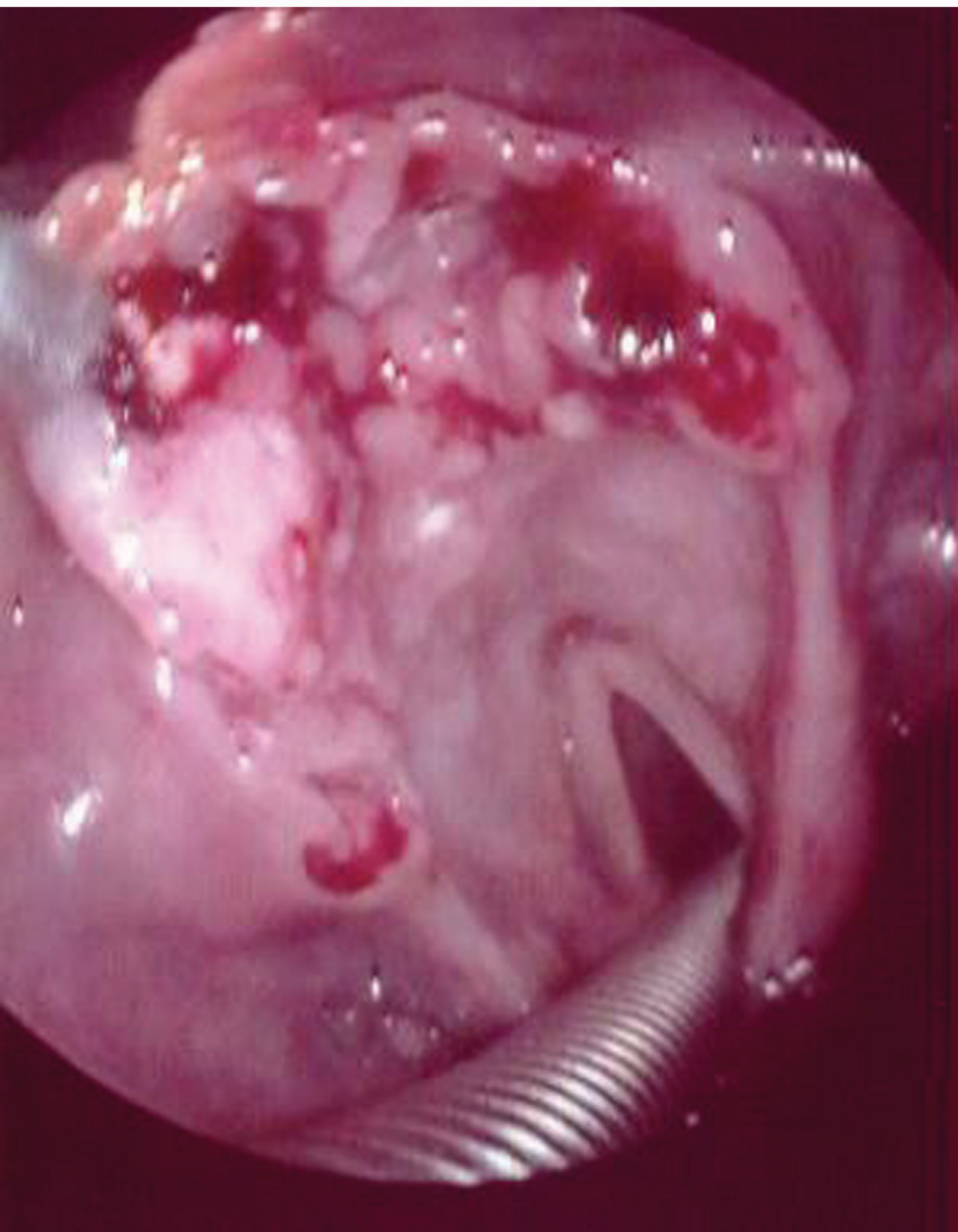


Figure 1: Supraglottic cancer T2N0M0 (pre-op)

cancer. This technique made an appropriate exposure of supraglottal areas and more accurate diagnoses and therapies possible.

Malignant lesions of the larynx for endoscopic surgery should be criteriously selected. Complete endoscopic exposure of the tumor should be possible. Endoscopic treatment with CO2 laser for laryngeal cancer is an efficient therapy for early supraglottic (T1 and T2, N0) cancers.

The treatment of choice for advanced supraglottic tumors (T3 and T4) is open surgery with neck dissection if there is tumoral invasion of the preepiglottic space. Adjuvant radiotherapy in cases of T3 glottic tumors allows laryngeal preservation and adequate oncological results. Open surgery and neck dissection are indicated in T3 supraglottic carcinoma with tumoral invasion of the preepiglottic space.

Conclusion

Endoscopic treatment with CO2 laser for laryngeal cancer is an efficient therapy for early supraglottic (T1 and T2, N0) cancers. The modern technology of CO2 laser (microspot, superpulse) and the anatomical principles of phonomicrosurgery have made the local function possible without prejudice to oncological results. Exclusive microsurgery is not an adequate treatment option for advanced supraglottic carcinoma.



Figure 2: Supraglottic cancer (post-operative)