

Meeting abstract

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Outcomes of radiotherapy in patients with glottic larynx cancer T1 and T2

Jesús M Flores*¹, Maria A Poitevín¹ and Luis F Oñate²Address: ¹Division of Radiotherapy, INCAN, Mexico and ²Department of Gastroenterology, INCAN, Mexico

Email: Jesús M Flores* - floca44@hotmail.com

* Corresponding author

from 24th Annual Meeting of the National Cancer Institute of Mexico
Mexico City, Mexico. 14–17 February 2007

Published: 5 February 2007

BMC Cancer 2007, 7(Suppl 1):A16 doi:10.1186/1471-2407-7-S1-A16

This article is available from: <http://www.biomedcentral.com/1471-2407/7/S1/A16>

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Background

Early Larynx Cancer (ELC) has been historically treated with radiotherapy and the outcomes reported vary considerably. We analyze the patient and treatment related parameters that may influence the frequency of local control, overall and disease free survival; and voice preservation.

Patients and methods

Thirty patients were treated with radiation therapy between 1996–2002. We use the AJCC 2002 classification for the patients and also they were stratified according to the extent of disease. Variables like age, clinical stage, tumor extension, involvement of anterior commissure, Karnofsky index, total dose, field size, protraction, beam energy and others were used for the statistical analysis.

Results

We found 30 male patients with a median age of 64 years (range 35 – 88). Twelve patients were T1a, 10 patients T1b and 8 patients had T2 tumor; according to the tumor extension, 11 (37%) had affected one vocal cord, 13 (43%) one vocal cord and anterior commissure and 6 (20%) had affected two cords and the anterior commissure. The median follow up was 53.2 months and a range between 5 and 114 months. All patients were treated with a continuous course of radiotherapy with a fraction size of 2 Gy per day, the median dose was 68.7 Gy (56 – 81 Gy), the median of protraction was 53 days (range 42 – 77). Co60 was used in 25 patients and 6 MV in 5 patients, the field size was equal to or smaller than 7 × 7 cm² with a larynx box technique for all. In 27 patients the dose calculation

was made with a Cadplan[®] system to an isodose curve of 95% to the tumor. Local control rates at five years were as follows: T1a 100%, T1b 75% and T2 37.5%. The overall survival to 5 years for the entire group was 73.3%. Voice preservation was reached in 25 patients (83%) until the last visit. The reported toxicity was mucositis in 27 patients (90%), 3 of them required a nasogastric tube, no surgical treatment was required. Radiotherapy was not the cause of death in any patient. There were 8 recurrences, 3 of them were rescued with total laryngectomy, one patient was treated with partial laryngectomy and presented a new recurrence, 4 patients did not accept any further therapy. Only those variables like stage (p 0.008), tumor extension (p 0.009) Karnofsky index 90 Vs 100 (p 0.008), and anterior commissure involvement (p 0.04) had a significant association with local control in univariate analysis.

Conclusion

Radiation therapy cures a high percentage of patients with T1 glottic carcinoma and has a low rate of severe complications. For T2 glottic carcinoma an adequate selection and staging for the election of the best treatment option is necessary, The major tumor-related parameter that influences the likelihood of local control is T stage and extension of disease.