



### Results in laser microsurgery and radiotherapy of head–neck cancer

S. Cafiero Ballesteros<sup>1</sup>, C. Blanco Garcia<sup>1</sup>, I. Diaz de Cerio Martinez<sup>1</sup>, G. Rodriguez Moreno<sup>1</sup>, E. Larruscain Sarasola<sup>2</sup>, I. Uranga Aizpurua<sup>1</sup>, J. Minguez Martinez<sup>1</sup>, M. Eguiguren Bastida<sup>1</sup>, A. Querejeta Ayerra<sup>1</sup>, E. Guimon Olaizola<sup>1</sup>, J. Urraca La Serna<sup>1</sup>, M. Iglesias Gaspar<sup>3</sup>, J. Puértolas Hernández<sup>4</sup>, U. Iriondo Igerabide<sup>4</sup>

<sup>1</sup>Hospital Universitario Donostia, Oncología Radioterápica

<sup>2</sup>Hospital Universitario Donostia, Otorrinolaringología

<sup>3</sup>Hospital Universitario Donostia, Unidad de Epidemiología

<sup>4</sup>Hospital Universitario Donostia, Servicio de Radiofísica

**Overview.** Head and neck cancers (HNC) are a heterogeneous group of tumors that arise from the squamous epithelium. Surgery and radiation therapy are standard treatments in most cases. Transoral laser microsurgery (TLM) offers new perspectives for organ preservation in the surgical treatment of these patients.

**Objective.** To analyze the overall survival (OS), disease-free survival (DFS) at 10 years and type of recurrence in patients treated with (TLM) and radiotherapy of HNC.

**Methods.** This retrospective study was based on a review of medical records from 80 patients with HNC, diagnosed at Donostia Hospital, San Sebastián, Spain, between January, 2000 and June, 2011. Medical records were provided by the Otorhinolaryngology and Radiation Oncology departments. All medical records were analyzed for the following clinical variables: sex, age, tumor site, histopathology, type of adjuvant therapy, TNM and stage, OS, DFS and type of recurrence.

**Results.** 75 males and 5 females were included. Median age was 63 (44–83) years old. 76.3% of tumors were located in supraglottis; 57.5% moderately differentiated; 80% T2 and T3; 31% N0, 18.8% N1 and 25.1% N2; 35.5% corresponded to stage III and 51.3% to stage IV; extracapsular extension was found in 27.5%. All patients were treated with TLM and radiotherapy; lymphadenectomy was made in 86.3%, chemotherapy was administered in 38.8%. Local recurrence was 15% and regional recurrence 13.8% at 10 years. OS was 75% and 46.6% at 5 and 10 years; DFS was 88% and 85.1% at 5 and 10 years.

**Conclusions.** Our data show that TLM followed by adjuvant radiotherapy provides excellent results for patients with HNC and can be therefore an option instead of more aggressive treatments.

<http://dx.doi.org/10.1016/j.rpor.2013.03.282>

### Role of 18FDG-PET/CT for radiotherapy planning in head and neck cancer

N. Farré<sup>1</sup>, L. Díez<sup>1</sup>, J. Rojas<sup>1</sup>, J. de Vega<sup>1</sup>, A. Latorre-musoll<sup>2</sup>, A. Fernández<sup>3</sup>, V. Camacho<sup>3</sup>, K. Majercakova<sup>1</sup>, P. Buitrago<sup>1</sup>, D. Giménez<sup>1</sup>, X. León<sup>4</sup>, A. López-pousa<sup>5</sup>, J. Craven-bartle<sup>1</sup>

<sup>1</sup>Fund. Gest. San. Hosp. Sta. Creu I St. Pau, Oncología Radioterápica

<sup>2</sup>Fund. Gest. San. Hosp. Sta. Creu I St. Pau, Radiofísica y Radioprotección

<sup>3</sup>Fund. Gest. San. Hosp. Sta. Creu I St. Pau, Medicina Nuclear

<sup>4</sup>Fund. Gest. San. Hosp. Sta. Creu I St. Pau, Otorrinolaringología

<sup>5</sup>Fund. Gest. San. Hosp. Sta. Creu I St. Pau, Oncología Médica



**Introduction.** In head and neck cancer, 18FDG-PET/CT appears to be more sensitive than traditional CT-MRI-based delineation to define volumes for planning radiotherapy.

**Purpose.** The aim of this study was to analyze the outcome of using a single 18FDG-PET/CT procedure for staging, planning and contouring volumes for patients with head and neck cancer.

**Methods and materials.** In 2012, 22 patients with stage II–IV squamous cell carcinoma of head and neck underwent an 18FDG-PET/CT in treatment position (with thermoplastic mask) for staging and planning purposes. 17/22 patients undergoing radical radiotherapy were included. 18FDG-PET/CT studies were transferred to Eclipse (Varian Medical Systems) treatment planning system. GTV were delineated using CT information only (GTVCT), and with SUV thresholds of 20, 30 and 40% of the maximum PET uptake. We then integrated both CT and PET information (GTVplan), for T and N volumes.

**Results.** Staging was modified in 5 of the 22 patients (23%), due to overstaging in 4 patients and understaging in 1. For the 17 selected patients, GTVplan volume decreased 0–10% compared to GTVCT in 13.3% of cases and 10–50% in 6.7%. GTVplan volume increased 0–10% in 46.7% of cases, 10–30% in 20%, and 30–70% in 13.4%. Pearson correlation index for T volumes between GTVplan-T and GTVPET-T (threshold of 20–30–40%) was 0.74–0.85–0.84, respectively. Pearson correlation index for N volumes between GTVplan-N and GTVPET-N was 0.41.

**Conclusions.** 18FDG-PET/CT improves patient selection for radical treatment and provides useful information for radiation treatment planning in head and neck cancer. Using 18FDG-PET/CT imaging for staging and planning, does not increase the workload and it is cost-effective in the patients selected for RT.

<http://dx.doi.org/10.1016/j.rpor.2013.03.283>