Patients and Methods: From January 1991 to December 2010, 160 patients with T1-T2N0M0 vocal cord carcinoma were treated with curative intent. Of them, 107 (67%) received surgery and 51 (33%) radiation therapy. Surgery consisted in endoscopic laser excision in 45% of cases, and cordectomy in 22%. Three fractionation regimens were used for radiation therapy: 66−70 Gy at 2 Gy/fx; 63 Gy at 2.25 Gy/fx, or 60 Gy at 2.5 Gy/fx, 5 fx/week in all cases. Twenty five patients from the surgery group and 22 from the radiation group responded to the VHI questionnaire in their last follow-up visit, at least 3 months after treatment. The VHI consisted on 10 voice-related questions, scored from 0 to 5, being 0 the minimum voice impairment (minimum dysphonia) and 5 the maximum (maximal dysphonia).
Results: With a median follow-up of 73 months, there were no significant differences in 5-year disease-free survival among patients treated with surgery (92%) or radiotherapy (84%). Mean value of VHI-10 was 0.9 for the radiation group and 1.08 for the surgery group. Only one patient in the radiation group had a score >2 (4%), whereas 5 patients in the surgical group (22%) had scores >2 (range 2−3.2). There were no differences in voice quality between the different fraccionation schemes. Neither were significant differences between patients treated with laser excision or cordectomy.
Conclusions: Radiation therapy highly preserves the quality of the voice in patients with early glottic cancer. Compared with surgery, no statistically significant differences were found globally, though a higher percentage of the surgical patients referred more severe impairment of their voice.

8535 POSTER

Trends in Incidence of Head-and-Neck Tumours Based on Human Papillomavirus Infection − Differences Between North and South of Portugal

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Background: The recognition that human papillomavirus (HPV) plays any role in head-and-neck tumours (HNT), has important implications for cancer prevention. As vaccination for HPV becomes widely available, it is necessary to know the real distribution and incidences of HNT at different anatomical sites and whether the incidence of HPV-associated and potentially HPV-associated cancers are increasing.
Material and Methods: Data were extracted from two Population-Based Cancer Registries (Oncological Registry of North and Oncological Registry of South of Portugal). 12,357 HNT were analyzed since 1996–2006 in a population of 7,700,062 residents. Crude and age-standardized incidence rates (European population) were calculated considering sex, age group and country regions. The anatomical sites analyzed were that included in the International Classification of Disease, tenth edition as C00-C14 and C30-C32. To assess impact of HPV infection, the squamous cell carcinomas sites were categorized according to anatomical location, as: HPV-associated, potentially HPV-associated or unrelated. The relation between incidence and these groups were evaluated with a Poisson regression model.
Results: Crude and age-standardized incidence rates were 29.7 and 28.0/100,000 for men and 4.3 and 3.2/100,000 for women. From the first period (1996–1998) to the last one (2005–2006), the standardized rates increased in both sexes (in men from 27.3 to 29.9 and for women from 2.9 to 3.9). The annual change on the rates was estimated in 1.82%. The incidence variation was explained in 84% of the cases by age, sex and HPV infection. The most frequent anatomical sites in both regions were oral cavity, lip and larynx. The incidence rate ratio for the potentially HPV-associated tumours was 4.2 times greater when compared with the HPV-associated after controlling the variables sex, age, period of time and country region.
Conclusions: We observed a significant increase in the incidence of these tumours over time, with higher incidence rates in the South of the country. The HPV infection plays a determinant role in the epidemiology of these tumours and the groups classified as potentially HPV-related were definitively those with the major incidence rates. Further studies are necessary to assess the effect of HPV vaccine on these tumours.

8536 POSTER

Effects of Antiemetic Prophylaxis With Aprepitant on Outcomes From Primary Chemoradiation for Locally Advanced Squamous Cell Carcinoma of the Head and Neck (LASCCHN)

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Background: Antiemetic prophylaxis is known to improve tolerability of chemoradiation (CRT) for LASCCHN, but the effects on treatment outcome are less established. We explored the effects of the neurokinin-1 antagonist aprepitant in this single-institution retrospective review.
Material and Methods: Patients with LASCCHN of the oropharynx, oral cavity, hypopharynx, and larynx diagnosed January 1, 2006 − January 1, 2009 and treated with primary CRT were identified. Patients treated with adjuvant or palliative intent were excluded. Treatment and outcome data were collected by chart review. Aprepitant use was determined from pharmacy prescriptions and records. Outcomes were assessed in two eras based on the availability of aprepitant in Canada − period A: January 1, 2006 to September 30, 2007, and period B: October 1, 2007 to January 1, 2009.
Results: 148 patients (74 in each period) met inclusion. Patient and tumour characteristics were similar between periods A and B, including stage (18.2% III, 62.2% IVA, 19.6% IVB), oropharynx primary (67.6%), and male gender (83.1%). Mean RT delivered was 6861 cGy (range, 3800–7210), and concurrent chemotherapy consisted of high-dose cisplatin 100 mg/m^2 (HDC, 62.8%), weekly carboplatin (14.9%) or cisplatin (9.5%), or cisplatin/docetaxel/5-FU induction followed by weekly carboplatin (TPF-CRT, 12.8%). Median overall survival was 28.8 months with median follow-up of 36 months. Aprepitant use was higher in period B (67.6 vs 5.4%, $p < 0.0001$), highest with HDC and TPF-CRT regimens in period B (84.7 vs 7.5%, $p < 0.0001$), and associated with more cumulative cisplatin administered (269.2 vs 247.7 mg/m^2, $p = 0.046$). No changes in surgical salvage post-CRT (27.0 vs 20.3%, p=NS), recurrence (24.3 vs 20.3%, p=NS), or cancer-related death (16.2 vs 16.2%, p=NS) were observed. However, non-cancer and treatment-related deaths were significantly lower in period B (3.4 vs 10.8%, $p = 0.031$). In multivariable Cox regression analysis, tumour stage ($p = 0.005$), age ($p = 0.005$), and oropharynx primary ($p = 0.019$) were predictors of overall survival. Although in this model period B did not reach significance ($p = 0.09$), a sensitivity analysis excluding patients only treated with concurrent weekly carboplatin or cisplatin showed an independent association of period B with survival (HR: 0.63, $p = 0.042$).
Conclusions: In this retrospective cohort, the introduction of routine antiemetic prophylaxis with aprepitant in period B was associated with improved delivery of cisplatin and lower non-cancer related mortality, particularly in patients receiving high-dose (100 mg/m^2) cisplatin.

8537 POSTER

Postoperative Radiochemotherapy in Patients With Head and Neck Tumours With Weekly Cisplatin

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Background: To describe the compliance, acute toxicity and results of a scheme of postoperative RT/QT with weekly cisplatin in patients (p) with squamous cell carcinoma of head and neck.
Patients and Methods: Between March 2004 and June 2010, 88 p were treated with RT/QT postoperative to present a risk factor for local recurrence (pT3, pT4 or N2, N3, or pT1, pT2 with N0, N1 margins of the resection (<5 mm), involvement of two or more lymph nodes, extracapsular extension or vascular tumour embolization). All received 50 Gy in areas at risk of subclinical disease, with boost (total dose 66 Gy) in high risk areas, in fractions of 2 Gy/day, 5 days a week. Concomitantly planned weekly administration of cisplatin 40 mg/m^2 starting week 1 of radiotherapy.
The statistical package used was SPSS version 17.
Results: The median age was of 58.5 years (range: 36−82 years), 69 males and 19 females. 6p were stage II, 20 p were stage III, 53 p were stage IV-A and 9 pts were stage IV-B. The primary tumour was located in the larynx in 34 p, oropharynx in 17, oral cavity in 26, hypopharynx in 3, other locations in 8. Of the 88 p, 80% received at least 5 cycles and 42% 6 cycles of chemotherapy. No G4 acute toxicity was observed. 29 p showed toxicity G3 (33%). The most common acute toxicity G3 was: mucositis in 21p (24%), and hematological in the rest. The median follow-up was 33 months (range 4−82 months). The specific cause SG at 2 and 5 years was 81% and 58% and DFS at 2 and 5 years was 74% and 61%. The factors

significantly associated with SLE have been positive or closely (<5 mm) margins and the overall treatment time RT $\geqslant$ 8 weeks.
Conclusions: The administration of weekly cisplatin dose of 40 mg/m^2 concomitantly to classical fractionation radiotherapy is a feasible treatment, with a good toxicity profile in patients with head and neck tumours and postoperative risk factors of locoregional recurrence. The positive or closely resection margins and the overall treatment time RT more than 8 weeks were associated with decreased DFS significantly.

8538 POSTER

A Phase II Study of Induction Chemotherapy With Docetaxel, S-1, and Cisplatin in Patients With Locally Advanced Head & Neck Squamous Cell Cancer (HNSCC) − Preliminary Results

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Background: Based on doses from two phase I study (Br J Cancer 2007; 97: 851−56, Oncology 2008; 75: 1−7), we ought to evaluate the efficacy and safety of a docetaxel, S-1, and cisplatin combination chemotherapy for the treatment of locally advanced head and neck cancer in the induction followed by chemoradiotherapy (CRT) strategy.
Patients and Methods: Eligibility criteria included measurable, non-metastatic, histologically-proven stage III or IV locally advanced head and neck cancer (LAHNC). Patients received docetaxel at a dose of 60 mg/m^2 given as a 3-h intravenous infusion followed by a 1-h infusion of cisplatin at a dose of 60 mg/m^2 on Day 1 and S1 at a dose of 40 mg/m^2 bid on Day 1−14 every 21 days for a total of 2−3 cycles, prior to definitive CRT. Patients achieved complete response (CR) after 2 cycles allowed to receive CRT and patients achieved <CR after 2 cycles received additional one cycle of induction chemotherapy. Patients with CR or PR after induction chemotherapy received definitive CRT (cisplatin 100 mg/m^2 every 3 weeks or cisplatin 40 mg/m^2 weekly plus 66−70 Gy of radiotherapy). The primary objective of this study was to evaluate tumour response rate for docetaxel-S1-cisplatin combination chemotherapy in subjects with locally advanced head and neck cancer.
Results: Between December 2008 and March 2011, 23 patients were treated. Twenty-two (96%) of patients were male and the median age was 61 (range, 46−69). All patients had squamous cell carcinoma. The predominant locations of the tumour were oropharynx (57%), hypopharynx (17%), and larynx (13%). A majority of patients (87%) had Stage IV disease. A total of 56 courses of study therapy were administered and patients received a median of 2 courses of therapy. For ITT analysis, the overall response rate was 74.0% and CR rate was 34.8% after induction chemotherapy. Grade 3/4 neutropenia was the predominant hematology abnormality (56.5%) and grade 2 anemia was noted in 26% in this study. Non-hematologic toxicities were generally mild but grade 3 diarrhea was observed in 17.4% of patients. Eighteen patients received subsequent CRT (N = 14) or RT alone (n = 4).
Conclusion: Docetaxel-S1-cisplatin combination for induction chemotherapy had therapeutic efficacy with manageable toxicity in patients with LAHNC.

8539 POSTER

Outcome and Prognostic Factors in Adenosquamous Carcinoma of the Head and Neck − a Multicenter Rare Cancer Network Study

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Background: Adenosquamous carcinoma (AC) of the head and neck is a distinct entity first described in 1968. Its natural history is more aggressive than squamous-cell carcinoma. The aim of this study was to assess the clinical profile, patterns of failure, and prognostic factors in patients with AC of the head and neck treated by radiation therapy (RT) with or without chemotherapy (CT).
Materials and Methods: Data from 19 patients with stage I (n = 3), II (n = 1), III (n = 4), or IVa (n = 11) AC, treated between 1989 and 2009, were collected in a retrospective multicenter Rare Cancer Network study. Median age was 60 years (range, 48−73). Fifteen patients were male, and 4 female. Risk factors, including perineural invasion, lymphangitis, vascular invasion, positive margins were present in the majority (83%) of the patients. Tumour sites included oral cavity in 4, oropharynx in 4, hypopharynx in 2, larynx in 2, salivary glands in 2, nasal vestibule in 2, maxillary sinus in 2, and nasopharynx in 1 patient. Surgery (S) was performed in all but 5 patients. S alone was performed in only 1 patient, and definitive RT alone in 3 patients. Fifteen patients received combined modality treatment (S+RT in 11, RT+CT in 2, and all of the three modalities in 2 patients). Median RT dose to the primary and to the nodes was 66 Gy (range, 50−72) and 53 Gy (range, 44−66), respectively (1.8−2.0 Gy/fr., 5 fr./week). In 4 patients, the planning treatment volume included the primary tumour site only. Eight patients were treated with 2D RT, 7 with 3D conformal RT, and 2 with intensity-modulated RT.
Results: After a median follow-up period of 39 months (range, 9−62), 9 patients developed distant metastases (lung, bone, mediastinum, and liver), 7 presented nodal recurrences, and only 4 had a local relapse at the primary site (all in-field recurrences). At last follow-up, 7 patients were alive without disease, 1 alive with disease, 9 died from progressive disease, and 2 died from intercurrent disease. The 3-year and median overall survival, disease-free survival (DFS), and locoregional control rates were 55% (95% confidence interval [CI]: 32−78%) and 39 months, 34% (95% CI: 12−56%) and 22 months, and 50% (95% CI: 22−78%) and 33 months, respectively. In multivariate analysis (Cox model), DFS was negatively influenced by the presence of extracapsular extension (p = 0.01) and advanced stage (IV versus I−III, p = 0.002).
Conclusions: Overall prognosis of locoregionally advanced AC remains poor, and distant metastases and nodal relapse occur in almost half of the cases. However, local control is relatively better, and early stage AC patients had prolonged DFS when treated with combined-modality treatment.

8540 POSTER

The Treatment Result of Advanced Stage Oropharyngeal Cancer by Radiotherapy With or Without Chemotherapy − the Impact of Intensity Modulation Radiotherapy and FDG-PET

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Introduction: To know impact of intensity modulation radiotherapy (IMRT) and FDG PET and the tumour response for tumour control for advanced stage oropharyngeal cancer.
Material and Methods: There were 251 stage III-IV oropharyngeal cancer patients received radical treatment. Majority (90.0%) was male; usually patients had habit of smoking (81.7%), alcohol drinking (69.7%) and betal quid chewing(56.2%). Most (77.7%) were tonsil cancer and tongue base (13.5%). FDG PET was given in 115 patients before radical treatment. The stage distribution was stage III: 54(21.5%), stage IVa: 141(56.2%) and IVb: 56(22.3%). There were 167 (66.5%) patients received IMRT; concurrent Cisplatin based chemotherapy was given in 212(84.4%) patients. The analysis was based on intent to treat.
Results: The 3-year disease specific survival(DSS) and loco-regional control(LRC) in stage III, IVa, IVb were 77.1%, 53.9% and 37.8%;. P = 0.000; 68.4%, 51.5%, 31.6%, p = 0.000 respectively. Thirty eight (15.1%) patients had 2nd cancer. Head and neck(19 patients) and esophageal cancer(10 patients) were most common. Smoking, overall stage, FDG PET, overall stage, T stage and RT dose is independent factor for disease control. FDG PET improved tumour control in OS, DSCC, LRC and distant metastasis. Patients with IMRT had less incidence of > = grade 2 xerostomia and dysphagia at 1year after radical radiotherapy.
Conclusion: FDG PET but not IMRT can improve tumour control and overall survival in oropharyngeal cancer. IMRT can decrease xerostomia and dysphagia.

8541 POSTER

Surgery + Radiotherapy Vs Exclusive Chemo-radiation Therapy in Oral and Oropharyngeal Cancer − Long Term Toxicity Evaluation

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Background: Treatment of head and neck tumours negatively affects speech, swallowing, and quality of Life (QoL). Our aim was the evaluation of long term toxicity comparing surgery + radiotherapy (S+RT) and exclusive chemo-radiation therapy (CH-RT) regimes.
Material and Methods: Seventy-two patients, homogeneous for demographic and TNM characteristics were affected by a tumour of