

after treatment. A long term follow-up is necessary to conclude in term of LP rate, quality of live and functional larynx rate.

8509

POSTER

Development of a nomogram for prediction of survival and local control in larynx carcinoma treated with radiotherapy alone: a cohort study based on 994 patients

A.G.T.M. Egelmeier¹, J.M. de Jong¹, C. Dehing¹, L. Boersma¹, B. Kremer², P. Lambin¹. ¹Maastricht University Medical Center University Maastricht MAASTRO clinic GROW, Radiotherapy, Maastricht, The Netherlands; ²Maastricht University Medical Center University Maastricht GROW, Otorhinolaryngology, Maastricht, The Netherlands

Background: To advice a patient with a larynx carcinoma which treatment is best, a tool to predict survival and local control is needed. A number of prognostic factors for survival as well as local control have been identified. However, the exact importance of these factors in daily clinical practice and the treatment-decision making process needs to be determined. We therefore developed prediction models for survival and local control, for patients treated with radiotherapy alone, taking into account established prognostic factors.

Material and Methods: We performed a population based cohort study on 994 patients with a larynx carcinoma, treated with radiotherapy alone at the MAASTRO Clinic from 1977 until 2008. Prognostic factors that were investigated were: pretreatment hemoglobin level, age, sex, cT-status, cN-status, location of the tumor (glottic versus non-glottic), and eqd2T (total radiation dose corrected for fraction dose and overall treatment time). Performance of the models was expressed as the C-statistic. The maximum value of the C-statistic is 1.0; indicating a perfect prediction model. A value of 0.5 indicates that 50% of the patients are correctly classified, e.g. as good as chance. Hazard ratios (HR) were reported. The results of the multivariate analysis were used to develop a nomogram.

Results: Median follow-up was 140 months. Median 6-year survival for stage I and stage II disease was 72 months, for stage III disease 44 months, for stage IVA 17 months, and for stage IVB disease 5 months. In the multivariate analysis, independent unfavorable prognostic factors for overall survival were low hemoglobin level ($p < 0.0001$, HR 0.67), male sex ($p = 0.0002$, HR 2.30), high cT-status ($p < 0.0001$, HR 1.22 for T2 compared to T1, 2.22 for T3, and 4.29 for T4), presence of nodal involvement ($p = 0.034$, HR 1.46), higher age ($p < 0.0001$, HR 1.04), lower eqd2T ($p = 0.0037$, HR 0.97), and non-glottic tumor ($p = 0.0725$, HR 1.31). Prognostic factors for local control were hemoglobin level ($p < 0.0001$, HR 0.75), sex ($p < 0.0001$, HR 2.47), cT-status ($p < 0.0001$, HR 1.52 for T2 compared to T1, 2.48 for T3, 4.28 for T4), presence of nodal involvement ($p = 0.0059$, HR 1.51), age ($p = 0.0012$, HR 1.02), and eqd2T ($p = 0.0011$, HR 0.97). C-statistic of the models was 0.73 and 0.67, respectively.

Conclusions: We have built visual, ready to use nomograms for prediction of survival and local control with several easy assessable clinical factors, for patients with larynx carcinoma treated with radiotherapy alone.

8510

POSTER

'About Face' survey uncovers significant between-country variation across Europe in general public's awareness of head & neck cancer

J.L. Lefebvre¹, C.R. Leemans², J. Vermorken³. ¹Centre Oscar Lambret, Department of Head and Neck Surgery, Lille, France; ²VUMC Cancer Center, Department of Otolaryngology & Head and Neck Surgery, Amsterdam, The Netherlands; ³Antwerp University Hospital, Department of Medical Oncology, Antwerp, Belgium

Background: In Europe, the reported incidence and mortality rates of head and neck (H&N) cancer are approximately 143,000 and 68,000 per year, albeit with significant differences between individual countries. Despite this, the general public's awareness of H&N cancer is thought to be very low across the continent. The pan-European 'About Face' survey was planned and conducted in collaboration with the European Head & Neck Society (EHNS) to gauge current awareness and understanding of H&N cancer, with a focus on whether there are significant differences between countries that need to be addressed.

Methods: A total of 7,520 Omnibus internet interviews were conducted in France, Germany, Italy, The Netherlands, Spain, Sweden and the UK in September 2008.

Results: Overall, 77% of respondents were unaware of the term H&N cancer (ranging from 89% in the UK to 61% in Italy), while 89% were not aware that they knew anyone who had been affected by the disease (96% UK, 75% Italy). Those countries where more respondents believed that they knew someone who had been affected by H&N cancer also showed an increased awareness of the term, and vice-versa. German and Swedish respondents were more likely to identify body parts affected by H&N cancer correctly, although 60% overall believed that 'H&N cancer' includes tumors

of the brain. There was general consensus across all countries that certain lifestyle factors may increase the risk of developing the disease. Awareness that certain sexual habits may increase risk was low in all countries (mean: 5%, range: 4–9%). Respondents from both Italy and Spain had a lower level of knowledge of the symptoms of H&N cancer than other countries, especially Germany. Overall, consequences of surgery were seen as the most distressing potential symptom of H&N cancer, particularly in Sweden (33% of respondents) and the UK (32%).

Conclusions: The pan-European 'About Face' survey identified a lack of knowledge amongst the general public of the risk factors and symptoms of H&N cancer. Moreover, there were significant differences between individual countries which should be investigated further. In some countries (e.g. the UK), a simple increase in awareness of the disease in general is required, while educational activity in countries such as Italy and Spain may need to focus more on increasing awareness of symptoms of H&N cancer. Further education of the general public on H&N cancer is clearly warranted.

8511

POSTER

Long-term outcome and morbidity after treatment with accelerated radiotherapy and weekly cisplatin for locally advanced head and neck cancer

H. Rutten¹, L.A.M. Pop¹, G.O.R.J. Janssens¹, R.P. Takes², S. Knuijt³, A.F. Rooijackers⁴, M. van den Berg⁵, M.A.W. Merks⁴, C.M. van Herpen⁶, J.H.A.M. Kaanders¹. ¹Academisch Ziekenhuis Nijmegen, Radiotherapy, Nijmegen, The Netherlands; ²Academisch Ziekenhuis Nijmegen, Otorhinolaryngology, Nijmegen, The Netherlands; ³Academisch Ziekenhuis Nijmegen, Speechpathology, Nijmegen, The Netherlands; ⁴Academisch Ziekenhuis Nijmegen, Oral and Maxillofacial surgery, Nijmegen, The Netherlands; ⁵Academisch Ziekenhuis Nijmegen, Dietetics, Nijmegen, The Netherlands; ⁶Academisch Ziekenhuis Nijmegen, Medical Oncology, Nijmegen, The Netherlands

Background: To evaluate the long-term outcome and morbidity after treatment with accelerated radiotherapy combined with weekly cisplatin for locally advanced head and neck cancer.

Methods and Material: Between May 2003 and December 2007, 77 patients (median age 53 years) with locally advanced (stage III-IV) squamous cell carcinoma of the oral cavity ($n = 12$), oropharynx ($n = 41$), hypopharynx ($n = 23$) and larynx ($n = 1$) were treated at our hospital. Treatment consisted of accelerated radiotherapy with concomitant boost up to a dose of 68 Gy over a total period of 5.5 weeks and concurrent intravenous cisplatin 40 mg/m² weekly. Long-term survivors were invited to a multidisciplinary outpatient clinic for assessment of late morbidity using the RTOG/EORTC scoring system. All patients had a radiologic evaluation of swallowing function.

Results: The median follow up for the whole group was 28 months (range 3–68). Three-year disease specific survival, disease free survival and overall survival rates were 69%, 51% and 57% respectively. Local recurrence free survival at three years was 66%. Radiotherapy was given as planned in all but one patient and 91% received at least 5 cycles of cisplatin. At time of evaluation 43 patients were still alive of whom 32 patients participated in the multidisciplinary late morbidity clinic. Five patients (16%) suffered grade 4 toxicity, 2 had a laryngeal necrosis and 3 osteoradionecrosis. The five year actuarial rate of grade 3 or 4 toxicity on all sites was 52% and 25% respectively. Of the 32 patients who participated, 5 patients (16%) were able to eat without any restrictions and 2 patients (6.3%) depended on a gastric feeding tube. Radiologic evaluation demonstrated impaired swallowing in 57% of the patients. In 7 patients (23%) there was silent aspiration on liquids or thickened fluids, 8 (27%) suffered from stasis above the epiglottis and 9 (28%) had problems with transporting the thickened fluids or solid food from the oral cavity to the oropharynx.

Conclusion: This regimen of accelerated radiotherapy with weekly cisplatin produces 3-year survival rates that compare favorably to regimes using only accelerated radiotherapy or conventionally fractionated radiotherapy plus chemotherapy for advanced head and neck cancer. Long-term morbidity however was not insignificant and swallowing was objectively impaired in the majority of the patients with more than 20% silent aspiration. This has important consequences for supportive care and rehabilitation.

8512

POSTER

Swallowing complaints strongly correlate with salivary gland function, 1 year after radiotherapy for head and neck cancer

C. Terhaard¹, T. Dijkema¹, P. Braam¹, J.M. Roesink¹, C. Raaijmakers¹. ¹UMCU, Department of Radiotherapy, Utrecht, The Netherlands

Background: Swallowing complaints and xerostomia after radiotherapy (RT) for head and neck cancer negatively influence quality of live of