concomitant radiochemotherapy in patients affected by head and neck cancer.

Material and Methods: 226 patients, 38 female and 188 male, with head and neck cancer, treated with chemoradiotherapy from 1995 to 2014 at our department, were retrospectively reviewed. 59.7% of patients were younger than 60 years. The anatomical sites of cancer were: 36 nasopharynx, 63 oropharynx, 34 oral cavity, 51 larynx, 26 hypopharynx, 16 others sites. 64 patients underwent to postoperative treatment and 162 to radical treatment. They were treated with 2D-3DCRT (80%) or IMRT technique (20%). The mean dose administered was 68 Gy (range 60-74). The schedule of chemotherapy most used included cisplatin and 5-FU. Acute and late toxicity according to CTCAE v.4.0 scale. Age, gender, tumor/nodal stage, primary site, tumor grading, RT technique and dose were assessed as potential prognostic factors influencing treatment toxicity.

Results: Acute dysphagia and mucositis G2-3 were observed in 82.7% and 84.9% respectively of patients and were related with young age (p=0.03 and p=0.02), pharynx site (p=0.004 and p=0.003) and advanced stage (p=0.02 and p=0.009). Acute xerostomy G2-3 (15%) was associated with oropharynx staging, G3 oropharynx sites (p=0.03) and RT technique (p=0.004). Late xerostomy G2-3 (25.2%) was related with oropharyngeal site (p=0.04) and late fibrosis (14%) with nasopharynx site (p=0.03 and p=0.03 respectively). 3.5% of patients had acute neurotoxicity and 4.8% late neurotoxicity; this adverse effect was associated with nasopharyngeal site (p=0.03 and p=0.01 respectively).

Conclusion: Clinical and technical data may be predictive of severe toxicity. Younger patients with pharynx cancer are more susceptible to dysphagia, mucositis and xerostomia. In this subset of patients it’s critical evaluate strategies of adaptive radiotherapy with the aim to decrease the toxicity.

EP-1078 Nasopharyngeal Carcinoma: prognostic factors analysis in patients treated with IMRT and chemotherapy
N.A. Iacovelli1, A. Cavallo2, E. De Ponti3, P. Bossi4, S. Alfieri5, G. Rossi1, S. Naimo1, C. Bergamini4, S. Tana1, L. Licitra4, E. Nasopharyngeal Carcinoma: prognostic factors analysis in patients treated with IMRT and chemotherapy. Age, gender, tumor/nodal stage, primary site, tumor grading, RT technique and dose were assessed as potential prognostic factors influencing treatment toxicity. Results: Acute dysphagia and mucositis G2-3 were observed in 82.7% and 84.9% respectively of patients and were related with young age (p=0.03 and p=0.02), pharynx site (p=0.004 and p=0.003) and advanced stage (p=0.02 and p=0.009). Acute xerostomy G2-3 (15%) was associated with oropharynx staging, G3 oropharynx sites (p=0.03) and RT technique (p=0.004). Late xerostomy G2-3 (25.2%) was related with oropharyngeal site (p=0.04) and late fibrosis (14%) with nasopharynx site (p=0.03 and p=0.03 respectively). 3.5% of patients had acute neurotoxicity and 4.8% late neurotoxicity; this adverse effect was associated with nasopharyngeal site (p=0.03 and p=0.01 respectively).

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EP-1079 Clinical outcomes in locally advanced oropharyngeal cancer 18FDG PET-guided dose escalation IMRT-SIB
A. Chiara1, C. Fiorino2, M. Picchio3, A. Fodor1, S. Broggi2, M. Passetti1, E. Incerti1, P. Mapelli, F. Zerbetto1, C. De Antoni1, M. Azizi1, R. Calandrino1, D. Iacovelli1, R. Calandrino1, I. Dell’Oca1, N. Di Muzio1
1IRCCS San Raffaele Scientific Institute, Radiotherapy, Milano, Italy
2IRCCS San Raffaele Scientific Institute, Medical Physics Unit, Milano, Italy
3IRCCS San Raffaele Scientific Institute, Internal Medicine, Milano, Italy

Purpose or Objective: To analyze clinical outcome and prognostic factors in a consecutive series of 160 non-metastatic nasopharyngeal carcinoma (NPC) patients (pts) treated curatively with intensity modulated radiotherapy (RT) techniques (IMRT, Intensity Modulated Radiation Therapy, IMRT-SIB or VMAT, Volumetric Modulated Arc Therapy) and chemotherapy (CT).

Material and Methods: Pts were treated between October 2004 and April 2014 at our Institution. Median age at diagnosis was 49 years (range 18-92). According to WHO, 144 patients (90%) were suffering from undifferentiated NPC, 5 patients (3.1%), 3 patients (1.9%) and 8 patients (5%) were respectively affected by squamous cell carcinoma G1, G2 or G3. One pt was in stage I (0.6%), 31 pts (19.4%) were in stage II, 47 pts (29.4%) in stage III, 31 pts (19.4%) in stage IV and 50 pts (31.2%) in stage IVB. Seven pts (4.4%) received RT alone: 1 pt in stage I and 6 pts in stage II. Of the remaining 153 pts (95.6%) (25 pts with stage II and 128 pts with stage III and IV) 34 pts (21.2%) received CT concomitant to RT and 119 pts (74.4%) were treated with induction CT followed by RT-CT. IMRT was given with standard fractionation at a total dose of 70 Gy. In 134 patients (83.75%) circulating plasma EBV-DNA has been measured before treatment using quantitative PCR. A dedicated software (VODCA, www.vodca.ch) was used to collect and analyze dosimetric parameters in 137 pts.

Results: With a median follow up of 55.7 months (range 3.8-118.7) actuarial rates at 2 and 5 years were respectively: overall survival (OS) 92.36% and 82.81%, disease-free survival (DFS) 83.1% and 77.2%, local control (LC) 92.17% and 90.43%, locoregional control (LRC) 94.78% and 93.04% and distant control (DC) 89.57% and 86.96%. At univariate analysis N stage (NO+N1+N2+N3 vs N3b) was found to be a prognostic factor for DM (p = 0.029). At multivariate analysis conducted on the following stages: T stage, RT technique, Dmean > 69 Gy had better LC (p=0.029). Pts with a D99% > 64.9% and N stage (N0+N1+N2 vs N3) for DM and RC. Pts with a V95% > 83.75% circulating plasma EBV-DNA has been measured before treatment using quantitative PCR. A dedicated software (VODCA, www.vodca.ch) was used to collect and analyze dosimetric parameters in 137 pts.

Conclusion: The intensified treatment of CT-IMRT / VMAT achieves excellent clinical outcomes. Besides traditional prognostic factors, we demonstrated the prognostic value of dosimetric parameters. Finally, for the first time in a non-endemic area threshold values of GTV T (Gross Tumor Volume of the primary tumor) was prognostic for LC (p = 0.0095). The threshold value of 1500 copies of EBV-DNA was prognostic for DC (p = 0.048).

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