

years (range: 49-90). Most were smokers (N=48; 75%). Performance Status ECOG of 45 patients pre-treatment was 0-1. Primary treatment was PS in 35 patients, 54,7% (31,4% cordectomy, 68,4% partial laryngectomy), and RT in 29 patients, 45,3% (9 received CRT). Median follow-up was 3.5 years (range: 0-10 years). We report 16 deaths: 3 cancer-specific deaths, 9 non-related to laryngeal cancer, 3 cases with cause of death not retrieved and 1 patient died of grade 5 renal and pulmonary toxicity during CRT. Eight patients had persistent local disease (PL) after first treatment (6 after PS; 2 after RT); 12 had disease relapse (5 after PS, 7 after RT). Local relapse was reported in 6 cases (6 in RT), 1 locoregional and 4 nodal relapses were in patients treated with PS, and 1 case of distant metastases (in RT); 12 were submitted to total laryngectomy, 6 after PS group (5 for PL; 1 for locoregional relapse) and 6 after RT alone (2 for PL; 4 for local relapse). 3-yr Cancer-Specific Survival (CSS) was 93.5%, OS was 80% (95%CI: 69-91%) and DFS was 64% (95%CI: 52-79%). 3-yr OS in the PS group was 86,1% and RT group of 71,5% (p=0.0549). 3-yr SFTL was 77% in the whole sample, 82% in the PS group, 68% in the RT group (p= 0.585). Six patients registered a MACE (5 in PS group).

Conclusion

In our series, both strategies provided excellent CSS and similar survival free of total laryngectomy. Nodal relapses after surgery or local recurrences after RT were successfully salvaged with surgery and not detrimental to CSS. Although not statistically significant, the better OS seen in the surgery group must be interpreted with caution due to non-cancer deaths, missing-data, selection bias and the retrospective nature of this report.

EP-1164 Bone and dental complications in patients with head and neck cancer treated with IMRT

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Purpose or Objective

The aim of this study was to investigate the incidence of bone and dental side effects, especially osteoradionecrosis (ORN), and to evaluate their risk factors in patients with oral cavity, oropharyngeal and salivary gland cancers treated with intensity-modulated radiotherapy.

Material and Methods

415 consecutive patients (97 women, 318 men) treated in a single-center between January 2005 and December 2015 were retrospectively included in this study. Among patients, 62% had a locally advanced tumor (T3 / T4), 62% had oropharyngeal cancer and 73% had lymph node involvement. Sixteen patients (15%) underwent mandibular surgery prior to adjuvant irradiation. Also, 287 patients (69%) were treated with concomitant chemotherapy. The primary tumor and positive lymph nodes received a median dose of 70 Gy in 35 fractions. Patient follow-up data were analyzed to determine the incidence of dental and bone events. The right and left hemi-maxillaries were retrospectively contoured, and the clinical and dosimetric data collected to determine the predictive factors for these complications.

Results

The median follow-up was 3.8 years (0-9.6). The incidence of ORN was 5.8%. The incidence of non-ORN

bone complications was 8%. In addition, 15% of patients had dental complications. Maxillary surgery in the initial management (p=0.025) and an average dose greater than 49 Gy to the hemi-mandible (p=0.008) were significantly associated with the occurrence of bone events and ORN. The risk factors for dental complications were the location of the tumor in the oropharynx (p=0.0123) and female sex (p=0.0425).

Conclusion

Bone and dental complications remain relatively rare after intensity-modulated radiotherapy. Particular attention should be paid to dosimetric constraints, especially for patients at risk, and appropriate odontological management must be implemented to limit the occurrence of these events and to maintain the quality of life of patients. A prospective study with a larger number of patients is indicated to corroborate our findings. They will have to be reanalyzed in the longer term.

EP-1165 IMRT survival outcomes, late toxicities and endocrine dysfunction for nasopharyngeal carcinoma

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Purpose or Objective

Nasopharyngeal cancer is uncommon in non-endemic populations. We report IMRT local control, survival outcomes and late toxicities, with particular reference to endocrine dysfunction, in treatment of nasopharyngeal carcinoma.

Material and Methods

All cases of nasopharyngeal cancer treated with IMRT at a UK cancer centre between January 2009 - December 2012 were included. Fit patients age <70 years old with stage II-IV disease received concurrent cisplatin chemotherapy and for stage III and IV disease neo-adjuvant chemotherapy using docetaxel, cisplatin and 5-fluorouracil. Early toxicities were determined by case note review, late patient-reported toxicities using MD Anderson Symptom Inventory questionnaire and blood profiles were analysed for endocrine dysfunction. Survival outcomes were measured from date of diagnosis.

Results

Thirty patients were identified with a median follow-up of 70 months. There were 25 male and five female patients, median age 52 years (range, 20-79). Overall 3- and 5-year survival rates were 90% and 87% respectively. 5-year loco-regional and distant control rates were 96% and 93%. Acute grade 3 mucositis was seen in 63% of patients and 57% required insertion of a feeding tube. High rates of severe patient reported late toxicities were seen - oral dryness (69%), problems with swallowing/chewing (54%) and interference with overall enjoyment of life (46%). Of 16 patients who underwent endocrine testing, 56% had hormonal dysfunction (Table 1). Median time to abnormal endocrine function was 3 years (range, 2-6).

Table 1: Endocrine Dysfunction and mean dose to pituitary

Patient No	1	2	3	4	5	6	7	8	9	No % of total tested
GH Dysfunction	-	-	Partial	Severe	Severe	-	-	-	-	3 (19%)
Gonadotrophin Dysfunction	-	-	-	Yes	Yes	-	Yes	Yes	Yes	5 (31%)
Adrenocorticotrophic Hormone Dysfunction	-	Partial	-	-	-	-	-	-	-	1 (6%)
Thyroid Dysfunction	Yes	-	Yes	Yes	Yes	Yes	Yes	-	-	6 (38%)
Pituitary Mean Dose (cGy)	4026	3955	3447	5448	3427	2980	4598	4366	3919	

Conclusion

We report excellent local control and overall survival outcomes for nasopharyngeal cancer treated with IMRT. However there were high levels of treatment related late morbidities, which significantly impacted patient quality of life. Endocrine dysfunction should be appropriately diagnosed and managed during follow up. Measures to reduce toxicity and improve quality of life outcomes should be considered.

EP-1166 Factors associated with compliance to radiotherapy in underserved head and neck cancer patients

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Purpose or Objective

To determine the factors affecting treatment compliance among head and neck cancer patients treated with curative intent and to study the association of treatment compliance with response.

Material and Methods

175 patients of head and neck squamous cell carcinoma except nasopharynx were prospectively studied between January 2016 and June 2017 for their compliance to radiation treatment given with curative intent. This study was part of the trial registered in Clinical Trials Registry-India (CTRI/2017/10/010041). All patients were treated using 6MV photons by 2D treatment plan to a total dose of 66Gy or 60Gy for definitive or adjuvant radiotherapy respectively at conventional fractionation. Patients who had unintended treatment gaps during radiation were contacted over phone and reasons for each default were noted down. They were also persuaded to continue the treatment course. Clinical review of patients was done once weekly during the course of radiotherapy and all treatment-related toxicities were graded using CTCAE (version 4). Response to treatment was assessed using imaging at 3 months after radiotherapy. Data was analysed using SPSS version 19.

Results

A total of 125(83.3%) patients completed the intended radiation treatment course. Amongst them, 25(14.3%) were able to complete treatment without any unconventional gap in the course of treatment. 58(38.7%) patients completed treatment with a gap of less than 14 days and 49 (32.7%) completed treatment with a gap of more than 14 days. Machine related problems accounted for 27.2% of treatment gaps while treatment related toxicities contributed to 20.8%. Seven out of 25 patients defaulted treatment due to fear of radiation toxicities and 9 of 25 defaulted due to poor family and social support. Maximum toxicity grades were observed in oral mucosa (39.2% Grade 3&4) and weight loss (40% Grade 3&4). Patients who stayed within the hospital campus during their radiotherapy course had lesser chance of defaulting treatment (p=0.04) while more defaults were noted in patients with lower mean midarm circumference (p=0.045). Other sociodemographic variables like education, occupation, distance between hometown and the hospital, tumour characteristics like stage and site, clinical nutrition markers like triceps skin fold thickness, weight loss, serum total protein and albumin were not significantly associated with compliance. Eight out of 13 patients (61.5%) completing radiotherapy without any gap had complete response at 3 months after radiotherapy compared to 17 out of 72 patients (23.6%) in those who had any gap in their radiotherapy course (p=0.001)

Conclusion

The rate of completion of radiation treatment without any gap among underserved population attending our institute is low. Long machine down time and treatment-related toxicities were the major reasons for the gap. Fear regarding radiation treatment possibly due to ignorance was a common reason for discontinuation of treatment. Treatment gap was associated with poor outcome.

EP-1167 Indications for external beam radiotherapy in differentiated thyroid carcinoma: an expert consensus

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Purpose or Objective

The role of external beam radiotherapy (EBRT) in differentiated thyroid cancer (DTC) is inaccurately defined in current guidelines. We assumed that this issue might be responsible of a high heterogeneity in the use of EBRT for DTC depending on clinicians and/or centres and requires a consensual expert's agreement. The Tutyref network group (the French Thyroid working group) aimed to better define the indications for EBRT in DTC.

Material and Methods

An expert panel composed of 16 members (9 nuclear physicians, 4 endocrinologists, 2 radiation oncologists and 1 medical oncologist) originating from 13 different French centers evaluated the potential indications of EBRT for DTC. The participants were asked to choose the clinical situations relevant to EBRT with the possibility of abstention. None of experts had access to other respondents' answers before the completion of the questionnaire. We decided to set up beforehand a minimum response rate threshold of 80% for a clinical situation to be eligible for interpretation. A level of agreement > 80% was mandatory to establish the indications of EBRT.

Results

All the experts sent their answers to the questionnaire by June 2017. The suggested indications can be divided