

(tonsil, 11 patients; base of tongue, 7; soft palate, 4; pharyngeal wall, 1) were accrued. Distribution of N stage was: N0, 8 patients; N2a, 1; N2b, 9; N2c, 1; N3, 4.

Treatment consisted of IMRT alone to deliver 78 Gy/60 fractions/6 weeks to the GTV plus 5 mm margins at 1.3 Gy b.i.d. and at the same time 1.15 Gy and 1.0 Gy to areas at high and low risk for microscopic disease, respectively. Dose objectives were placed on the mandible, parotids and larynx (outside PTV) where we followed RTOG protocol 0022 directions after correction for the dose per fraction; for the part of the larynx, if any, overlapping with PTV78, a 75 Gy maximum dose limit was placed, and the total dose to the mucosa outside any PTV was tentatively limited to  $\leq 30$  Gy. Acute toxicity was scored weekly during treatment according to RTOG/CTC v2.0 criteria. All patients are eligible for acute toxicity analysis; 18 patients have a 6-month minimum follow up (median: 17.5 months, maximum: 28.7 months) and are also evaluated for locoregional control and overall survival.

**Results:** All patients were able to complete treatment as planned. All patients developed confluent mucositis within the PTV region and 17 (68%) moist desquamation of the skin. Mean weight loss was 11% (SD: 4.2%); 11 (44%) patients had gastrostomy tubes placed during their therapy, and 2 required the feeding tube for more than 6 months following IMRT. Seven (28%) patients were also admitted for a mean time of 11 (SD: 4.3) days. So far, none of the patients have developed loco-regional recurrence while 1 patient developed distant metastases and is currently undergoing palliative chemotherapy. One patient died of intercurrent disease at about 6 months after treatment end.

**Conclusion:** Preliminary data suggest that AHI is associated with intense but transient acute toxicity. Early data show high loco-regional control rates. However, longer follow-up is required to determine if results are durable and to assess its late toxicity profile.

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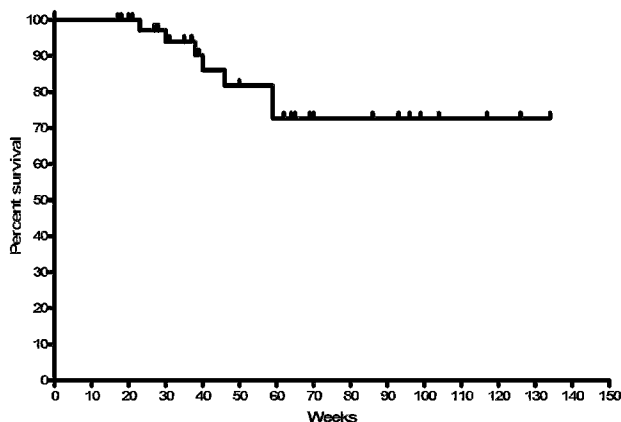
#### POSTER

#### Induction and concomitant chemotherapy with hypofractionated radiotherapy in advanced head and neck squamous cell carcinomas, does it improve outcome? A single institution experience

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**Background:** Locally advanced head and neck squamous cell carcinomas (HNSCC) has poor local control rates and overall survival. We report on our experience of induction and concurrent chemotherapy with hypofractionated radiotherapy (R/T) which can improve outcome.

**Materials and Methods:** Patients with histologically confirmed HNSCC radically treated in Norfolk and Norwich University Hospital from 1/6/02 to 31/12/04 were analysed. 41 patients had 3 cycles of induction C/T with cisplatin 100 mg/m<sup>2</sup> on day 1 and 5-fluorouracil (5FU) 1000 mg/m<sup>2</sup> continuous infusion days 2 to 6 (PF) repeated every 28 days. Concurrent weekly carboplatin 100 mg/m<sup>2</sup> was given with R/T provided creatinine clearance (CC) was  $>60$  ml/min. Conformal R/T was delivered using CT planning. Because of constraints on machine time, hypofractionated R/T was used to a dose of 55 Gy/20 fractions (I) in 4 weeks; nasopharynx tumours were given 66 Gy/33 over 6.5 weeks.



Disease free survival.

**Results:** The average age was 61 years (17–82 years). 59% male: 41% female. Sites involved were 7% anterior tongue, 58% oropharynx (with base of tongue, 22%, tonsil 18%, other sites 18%) pyriform fossa 5%, glottis 5%, supraglottis 10% and nasopharynx 15%. Using the

TNM Classification (2002) they were staged I=3%, stage II=7%, stage III=22%, stage IVA=63%, stage IVB=5%. 54% received full dose PF, with 12% cardiovascular complications. Of the remainder, 15% had cisplatin dose reduced by 25%, 15% switched to carboplatin because of low CC and 15% had only 2 cycles given, mostly because of confluent mucositis. 1 patient progressed on C/T and had a radical selective lymph node dissection followed by R/T alone. Serious complications occurred in 1 case who died from neutropenic sepsis 9 days post completion R/T with full C/T given. 32% had weekly concurrent Carboplatin, 36% had  $<4$  courses. 32% received no carboplatin. During R/T the RTOG acute radiation morbidity scoring criteria was used. Early side effects were mucositis in 95%, with grade 2=36%, grade 3=64% and no grade 4 reactions reported. Skin side effects were reported in 42%. Late side effects included xerostomia in 10%, and 5% (2 patients) had osteoradionecrosis of the mandible. Follow-up was an average 20 months (6–36 months). Alive with disease 10%, 17% patients died, all staged III or IV at diagnosis, recurring an average of 10 months after diagnosis. Disease free survival (DFS) at 30 months=73%.

**Conclusions:** The use of induction and concurrent C/T with hypofractionated radical R/T is a well tolerated regime. The DFS compares favourably to the published literature. Longer follow-up is required to determine if overall survival is improved.

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#### POSTER

#### Multimodality treatment for anaplastic thyroid carcinoma – does it improve survival?

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**Background:** Anaplastic carcinoma of the thyroid gland (ATC) is an uncommon malignancy with a median survival ranging from 3–7 months. Aggressive multimodality treatment is thought to increase local control and even survival. In a retrospective analysis, we compared the outcome of patients treated with surgery followed by hyperfractionated radiotherapy in combination with low dose Adriamycin as compared to patients treated with conventional radiotherapy.

**Materials and methods:** Locoregional radiotherapy ( $46 \times 1.1$  Gy) was administered twice daily, followed by prophylactic radiation of the lungs ( $5 \times 1.5$  Gy). During radiation, Adriamycin was administered in a dose of 15 mg/m<sup>2</sup> i.v. weekly. After chemoradiation, Adriamycin was continued in a dose of 50 mg/m<sup>2</sup> every 3 weeks until a cumulative dose of 550 mg/m<sup>2</sup> was reached.

Patient and treatment characteristics, toxicity profile, tumor control and survival were scored.

**Results:** A total of 75 patients with ATC were treated in our institution between 1972 and 2002. Mean age was 68 years, male:female ratio 1:3. Surgery was performed in 48% of patients, of which 53% resulted in an R0/R1 resection. A total of 30 patients were treated according to the hyperfractionation protocol; 15 underwent prophylactic lung irradiation. The other 45 patients were treated with conventional radiation therapy (dose range 20–70 Gy).

Mean overall survival was 3 months, 1 year overall survival 9%. Locoregional control was significantly better in both the surgery and the chemoradiation group, with best results for the patients who had had both R0/R1 surgery and chemoradiation. Survival for patients who reached a complete response (CR) at the end of treatment was significantly improved, with median overall survival 7 months and 1 year overall survival of 51% ( $p < 0.001$ ). Three patients survived for more than 5 years; they all underwent R0/R1 surgery followed by chemoradiation. In multivariate analysis, complete response at the end of treatment was an important factor for survival.

Acute toxicity in the protocol group was significantly worse as compared to the conventionally treated patients, with 46% versus 11% grade 3 pharynx/esophagus toxicity.

**Conclusion:** Anaplastic thyroid carcinoma remains a highly lethal malignancy. However, for a highly selected group of patients, local control and even long time survival can be obtained by aggressive multimodality treatment, at the cost of increased acute morbidity.