up in the 2005 analysis to gather current data from the study sites. With a minimum follow up through December 1, 2008, data on survival, progression free survival and other factors were gathered and analyzed by summary statistics.
Results: The initial demographics, therapy and toxicity were previously reported. Data of 85% of 501 subjects randomized to either TPF or PF treatment on TAX 324 was collected. With a median follow up of 71 months and a minimum of 5 years, the overall survival in the TPF group was significantly longer than in the PF group (HR 0.74; 95% CI 0.58−0.94; p = 0.013). Median survival was 71 and 30 months respectively, and mortality was reduced 24% in the TPF arm compared with PF. At 5 years 52% and 42% of the TPF and PF patients are alive (p = 0.06). Subset analysis showed that the median survival was improved across all sites with TPF. Median survival was not reached in patients with oropharyngeal tumor locations who were treated with TPF while it was 68 months in the PF group (HR 0.71, 95% CI 0.5−1.97; p = 0.07). The complete data set including the rate of tracheostomy and enteral feeding tube dependence among survivors will be presented at the meeting.
Conclusion: The benefit of induction chemotherapy with TPF is significantly superior to PF beyond 5 years and has been maintained at essentially the same level of impact as in the 2 year follow up. These data support the long term efficacy of TPF and sequential therapy in the management of appropriate patients with locally advanced head and neck cancer.

8503 ORAL

Final report of NPC-9901trial on therapeutic gain and late toxicities attributed to concurrent-adjuvant chemotherapy for T1−4N2−3M0 nasopharyngeal carcinoma

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Purpose: The NPC-9901 Trial aims to evaluate the therapeutic ratio achieved by concurrent–adjuvant chemoradiotherapy (CRT) for regionally advanced nasopharyngeal carcinoma (NPC). This is the first trial with long term data on late toxicities in addition to survival rates.
Patients and Methods: Eligible patients with non-keratinizing NPC staged T1−4N2−3M0 were randomly assigned to radiotherapy (RT) alone or CRT. Both arms used the same RT technique and dose in line with the policy adopted by individual centers, all patients were treated with conventional fractionation to a total dose $\geqslant$ 66 Gy. Those in the CRT arm were given the Intergroup-0099 Regimen of cisplatin 100 mg/m^2 every 3 weeks for 3 cycles in concurrence with RT, followed by 3 adjuvant cycle of cisplatin 80 mg/m^2 and 5-fluorouracil 1000 mg/m^2/day for 96 hours every 4 weeks. All analyses were based on intention-to-treat principle.
Results: From March 1999 to January 2004, 348 patients have been accrued: 176 were randomized to RT and 172 to CRT. The median follow-up was 5.9 years. The 2 arms were well-balanced in all prognostic factors and RT parameters. The tumor control and late toxicity rates were listed in the attached Table.
Conclusions: Long term data confirmed that CRT could achieve significant improvement in progression-free survival due largely to improvement in locoregional control, but the benefits in distant control and overall survival did not reach statistical significance. No significant excess in overall late toxicity rate (Grade $\geqslant$3) was observed.

Comparison of Chemoradiotherapy versus Radiotherapy alone

Endpoint	Comparison of actuarial rate by log-rank test		Independent significance of CRT by multivariate analyses	
	5-year rate (%)	*P* value	Hazard Ratio (95% CI)	*P* value
Loco-regional control	88 *vs* 78	0.005	0.45 (0.25, 0.79)	0.006
Distant control	74 *vs* 68	0.319	0.82 (0.56, 1.21)	0.32
Failure-free rate	67 *vs* 55	0.014	0.66 (0.47, 0.92)	0.015
Progression-free survival	62 *vs* 53	0.035	0.72 (0.53, 0.98)	0.036
Overall survival	69 *vs* 64	0.188	0.79 (0.57, 1.12)	0.189
Late toxicity (Grade $\geqslant$3)	30 *vs* 21	0.205	1.29 (0.87, 1.93)	0.206

8504 ORAL

Induction chemotherapy (IC) followed by concomitant chemoradiotherapy (CCRT) versus CCRT alone in patients with locally advanced nasopharyngeal carcinoma (LA-NPC) – a randomized phase II study of the Hellenic Cooperative Oncology Group

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Background: CCRT is considered standard treatment in LA-NPC. The role of IC when followed by CCRT in improving locoregional control remains controversial.
Patients and Methods: 141 eligible patients with LA-NPC were randomized to either 3 cycles of IC with cisplatin (175 mg/m^2), epirubicin (75 mg/m^2) and paclitaxel (75 mg/m^2) (CEP) every 3 weeks followed by definitive radiotherapy (70 Gy) and concomitant weekly cisplatin (40 mg/m^2) (group A, 72 patients) or CCRT alone (group B, 69 patients). For the present analysis, p16, MAP-Tau and ERCC1 protein expression were assessed centrally in tissue microarrays by immunohistochemistry in 107 tumors. EBER status was investigated by in situ hybridization.
Results: 66 patients (92%) in group A received 3 cycles of IC. Totally, 89% of patients (86% in group A vs 93% in group B, p = 0.718) completed treatment as planned. The two groups were balanced in terms of age, gender, PS, stage, and histology (WHO). Overall response rate (ORR), the primary endpoint, was 78% in both groups. Complete response rate was 57% in group A and 52% in group B (p = 0.614). Most frequently reported severe toxicities included neutropenia (3% vs 6%), leukopenia (24% vs 29%), thrombocytopenia (17% vs 1%, p = 0.005), nausea/vomiting (20% vs 19%) stomatitis (30% vs 38%), dysphagia (15% vs 6%), and weight loss (25% vs 26%). After a median follow-up of 31 months, 26 patients progressed (10 vs 16) and 28 (12 vs 16) died. 1-year PFS rate was 84% and 70% in groups A and B, respectively (p = 0.006). p16, MAP-Tau and ERCC1 protein expression was reported in 4%, 44% and 49%, respectively. EBER positivity was recorded in 67 out of 76 patients (88%) with type III, 18 out of 22 patients (82%) with type II and 3 out of 9 patients with type I histology (p = 0.001). No biological marker was associated with tumor response.
Conclusions: ORR with the CEP regimen followed by CCRT is not superior compared to CCRT alone in patients with LA-NPC. None of the biological markers investigated was of predictive value. Follow-up is continued to obtain further information on the type of progression and survival.

8505 ORAL

RapidArc for locally advanced head and neck cancer – first clinical results

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Background: Volumetric modulated arc radiotherapy is of upcoming interest instead of classical standard IMRT for treating locally advanced head and neck squamous cell carcinoma (HNSCC). For the first time we present clinical data regarding acute toxicity for a cohort of 40 patients (pt) treated with RapidArc (RA, Varian Medical Systems) with a simultaneous integrated boost (SIB) technique.
Material and Methods: From June 2008 until March 2009 40 pt with HNSCC completed RA treatment with curative intend. Primary tumor was located in the oropharynx (60%), hypopharynx and larynx (22.5%), nasopharynx (10%), paranasal sinus (5%) and nasal cavity (2.5%). Thirty pt were staged as AJCC stage III or higher, 10 pt were staged as I or II. Concurrent systemic therapy (cisplatin, cetuximab) was applied in 22 cases. Dose prescription was set at 70 Gy (2 Gy/fraction) for the primary tumor an pathological lymph nodes deliver as a SIB. The elective lymph nodes recieved a dose of 54.25 Gy (1.55 Gy/fraction) in an accelerated scheme (6 times a week, total treatment time 6 weeks) or 57.75 Gy (1.65 Gy/fraction) in a conventional setting (5 times a week, total treatment time 7 weeks). All patients were treated with two complementary arcs to optimize PTV homogeneity (Verbrakel et al, IJROBP 2009). Acute toxicity was recorded weekly according to RTOG Radiation Morbidity Scoring Criteria for dermatitis (D), mucositis (M), xerostomia (X), dysphagia (D) and laryngitis (L) and analyzed by the end of therapy. Results were compared retrospectively with recently published data from our patients treated using 7 field IMRT with sliding window technique (Vergeer et al, IJROBP 2009).
Results: All patients completed treatment as planned. S,M,D,L grade 3 or higher appeared in 32.5% and 12.3% (RA/IMRT), 30% and 18%, 50% and