Patients and Methods: Forty-nine patients (pts) were included from 14.02.2005 to 23.07.2008: median age 56(41−73), M/F = 4/45, PS 1/2 = 32/17, stage IIIA/IIIB = 10/39, squamous cell cc 36, large cell cc 2, adenocc 7, "non-small" carcinoma 4. Treatment consisted of 2 cycles of induction ChT, followed by concurrent chemoradiotherapy and consolidation ChT. When given as induction or consolidation chemotherapy, drugs were given in full doses: Vrb (25 mg/sqm, d1, 8, q21) and Cis (100 mg/sqm, d1, q21), or Carbo (AUC 5, d1, q21), in concurrent setting, doses were reduced: Vrb 15 mg/sqm, d1, 8, q21, Cis 80 mg/sqm, d1, q21 or Carbo AUC 4, d1, q21. Pre and post-induction ChT computed tomography defined the target volumes for radiotherapy. Patients who fulfilled the dose-volume histogram constraints, underwent dose escalation of radiotherapy, in cohorts of 7 pts, if no more than two grade 3 or one grade 4 toxicities occurred, until MTD. If one grade 3 and one grade 4 toxicities occurred, further expansion continued by 5 more pts.
Results: Forty pts underwent dose escalation in five cohorts: 64 Gy, 66 Gy, 68 Gy, 70 Gy, 72 Gy, without dose-limiting toxicity. For each dose level up to 7 pts were enrolled, with further expansion by five pts at 70 Gy dose level. Acute toxicities, in the 49 evaluable pts, were preponderantly mild, of grade 1 and 2. Severe grade 3 and 4 toxicities were: esophagitis in 4(10%), pulmonary toxicity in 7(14%), neutropenia in 8(16%) pts. There were 43% CR, 41% PR, 8% SD, 8%PD. RR.was 84%. With a median follow-up of 15.9 months, the 1-year survival rate was 83% (95% CI: 70−91). The mS has not been reached yet. Locoregional progression-free survival at 1 year was 77% (95% CI: 61−88).
Conclusions: As no MTD was reached during dose escalation this strategy has to be continued. RR and Survival data were promissing.

9108 POSTER

Mature results of an individualized radiation dose prescription trial based on normal tissue constraints in stage I-III non-small cell lung cancer (NSCLC)(NCT00573040)

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Background: We previously showed in a modeling and a phase I trial that individualized radiation dose escalation based on normal tissue contraints would allow safe administration of high radiation doses (van Baardwijk, Int J Radiat Oncol Biol Phys 2008). Here, we report the mature results of a prospective trial applying this individualized maximal tolerable dose approach.
Materials and Methods: Patients with stage III or medically inoperable stage I-II NSCLC, WHO-PS 0−2, an FEV1 and DLCO $\geqslant$30% were included. Patients were irradiated using an individualized prescribed total tumor dose (TTD) using normal tissue dose constraints (mean lung dose, MLD 10 to 19 Gy dependent on FEV1/DLCO, maximal spinal cord dose 54 Gy) up to a TTD between 54 Gy and 79.2 Gy in 1.8 Gy fractions BID. No concurrent chemo-radiation was administered; stage III patients received induction chemotherapy. The primary tumor and the initially PET-positive mediastinal lymph nodes were irradiated. Primary endpoint was overall survival (OS), secondary endpoints progression free survival (PFS) and toxicity (CTCAE v3.0). Results are expressed as median $\pm$ SD.
Results: 166 patients were included (115 males, 51 females; age 69 $\pm$ 10.4 years). Stage distribution: I 29%, II 10%, IIIA 22%, IIIB 39%. The gross tumor volume (GTV) was 50.3 $\pm$ 194.8 cc. The TTD was 64.8$\pm$11.4 Gy (EQD2 corrected for proliferation 62.5$\pm$9.0 Gy) with an MLD of 14.8$\pm$4.6 Gy, given in 36$\pm$6.3 fractions in an overall treatment time of 25.5$\pm$5.8 days. With a median FU of 31.6 months, the median OS was 21.0 months with a 1-yr OS of 68.7% and a 2-yr OS of 45.6%. Median PFS was 21.6 months; 75 patients (45%) had a recurrence (33% isolated loco-regional failure (LRR), 51% M+, 16% LRR and M+ as first event). OS and PFS was higher in tumors with a GTVmedian (resp p = 0.022 and p = 0.09) and EQD2> median (resp p = 0.012 and p = 0.013) and showed a trend in favor of stage I-II vs stage III (resp p = 0.05 and 0.17) and resectable vs unresectable tumors (resp p = 0.09 and p = 0.06). Based on multivariable analysis a higher GTV significantly decreased OS and PFS (both p < 0.001), while a higher TTD and EQD2 increased PFS (resp p = 0.017 and 0.008). Both acute and late toxicity were mainly mild. Acute dysphagia grade 3 was observed in 5% and was transient (late grade 3: 0%), while acute dyspnea grade 3−4 was seen in 10% (resp 8% and 2%) and late grade 3−4 in 5% (resp 3% and 2%). No myelitis was observed.
Conclusions: Individualized prescribed radical radiotherapy based on normal tissue constraints shows survival rates similar to concurrent chemoradiation schedules with mild toxicity.

9109 POSTER

Concomitant chemo-radiation (CRT) of locally-advanced NSCLC using weekly docetaxel: toxicity profile

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Background: Concomitant chemo-radiation (CRT) has been shown to be superior to radiotherapy (RT) without chemotherapy (CT) and to neoadjuvant chemotherapy followed by RT (NeoCTRT). It is not known which chemo-regimen is the optimal regimen. We have used concomitant weekly docetaxel. In this study we report the toxicity experienced with this regimen compared with patients treated with RT without concurrent CT treated at our institution.
Methods and Material: Data from patient files of a) 113 patients treated with RT in planned doses of 60−66 Gy without CT, b) 183 patients treated with NeoCTRT 60−66 Gy, and c) 37 patients treated with neoadjuvant CT followed by concomitant weekly docetaxel 20 mg/m^2 to a radiation dose of 60 Gy. All RT was applied 1995−2008 as 3-D RT in 2 Gy/F without elective nodal irradiation.
Results: The median survival in RT alone, NeoCTRT and CRT was 16.3, 15.6, and 20.5 months. The1 year survival was 60%, 61%, and 79%. However, the differences were not statistically significant. No grade 3+ hematological toxicity was found in the CRT group. Dyspnoe grade 3+ was not significant more prevalent in the CRT group, while esophagitis grade 3+ was. In a logistic regression analyses using dyspnoe grade 3+ as endpoint, only PS 2+ was a statistically significant factor, while analyzing esophagitis grade 3+ CRT and stage were of significance.
Conclusion: Use of concurrent docetaxel with RT resulted in an increased frequency of esophagitis grade 3−4 while the risk of pneumonitis did not change significantly. Although a trend for better survival with CRT was demonstrated, this was not statistically significant.

	N	Dyspnoe g3+	Dysphagia g3+	Treatment related deaths
a) RT alone	113	17.6%	1.9%	8
b) Neoadjuvant CT	183	22.8%	0.6%	5
c) CRT	37	27.8%	8.3%	3
p value CRT vs no-CRT		ns	<0.02	ns

9110 POSTER

Temozolomide as concomitant treatment to radiotherapy in non-small cell lung cancer patients with brain metastasis: a Galician lung cancer group study

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Background: Phase II and phase III trials have shown higher response and survival to radiotherapy when it is administered with temozolomide, in patients with brain metastasis from various primary tumors. We conducted a study to evaluate radiological response, toxicity, neurological progression, and survival of patients with brain metastasis secondary to a non-small cell lung cancer undergoing radiotherapy with concomitant temozolomide as compassionate use.
Materials and Methods: We included 24 patients aged >18, with non-small cell lung cancer and brain metastasis, who had not received previous holocraneal radiotherapy. They were administered 30 Gy of radiotherapy, in daily fractions of 300 cGy for 10 days, together with 72 mg/m^2 of temozolomide daily for 14 days. Metastasis progression and survival were estimated using Kaplan-Meier curves.
Results: Patients were mostly men (79%), with a mean age of 56.7 years, and histological diagnostic of adenocarcinoma or epidermoid tumor