as a percentage of the mean ranged from 43 to 67 for patient 1 and 45 to 89 for patient 2.
Conclusions: The inter-clinician variability in delineating a GTV of a post-operative glioblastoma was significantly less when using a fused CT-MRI image ($p = 0.002$). There was also less variability in the position of the volume in 3-dimensions (x-, y- and z-planes). This consistency did not hold when clinicians expanded to a PTV. This may be due to the clinicians' interpretation of the EORTC guidelines.

1385 POSTER

Role of endorectal magnetic resonance in staging patients candidate to radical conformal radiotherapy

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Background/Purpose: Magnetic Resonance (MR) is an imaging method that allows a good anatomical representation of the prostate and is becoming the imaging method of choice for staging prostate carcinoma before radical treatment. The purpose of this study is to evaluate endorectal MR (ERMR) powerfull in modifying clinical stage in patients with adenocarcinoma of the prostate and study MR stage correlation with serum PSA and Gleason score.
Material and methods: Between january 2002 and december 2004, 97 patients (pts) with biopsy proven prostatic adenocarcinoma referred to the Radiation Therapy department and candidate for esclusive conformal radiotherapy were included in the study. Of all the patients clinical stage, pre-treatment PSA value, Gleason score, ultrasound imaging have been available. Staging has been recorded according to the UICC 2002. MR scan was conducted in the Diagnostic Radiology department by using an endorectal and a surface spool (phased array) and through the acquisition of multiplanar sequences FSE (T1 and weighed T2). Probability of extracapsular extension or seminal vesicle invasion was also calculated according to the Roach formula.
Results: Clinical stage of the 97 pts, according to the UICC TNM 2002, pre-MR imaging was as follows: Stage I: 9 pts, Stage II: 79 pts and Stage III: 9 pts. ERMR confirmed clinical stage in 39 pts (40.2%), but in 58 pts (59.8%) MR stage was different. In 9 pts (9.3%) we observed a TNM reduction; with a stage reduction in 6 cases (6.2%). In 49 pts (50.5%) we observed a TNM increase; with a stage increase in 23 cases (23.7%). After MR imaging staging was as follows: Stage I: 3 pts, Stage II: 74 pts, Stage III: 18 pts and Stage IV: 2 pts. Stage modification was particularly observed in Stage I and Stage III and 2 Stage IV were detected (table 1)

Table 1: MR imaging stage modification

Stage	I	II	III	IV	Total
Pre MR	9	79	9	0	97
After MR	3	74	18	2	97
Modification	−6	−5	9	2	
Percentage (%)	66.7	6.3	100	200	

Conclusions: RM imaging is confirmed to be a good diagnostic tool in staging prostate cancer. Stage modification was observed in 58 pat. (59.8%). A more advanced stage may cause a more aggressive approach and let to select patients for a dose-escalation protocol. Statistical analysis and correlation between prognostic factors and Roach formula will be discussed.

1386 POSTER

Radiotherapy in trimodality treatment for pleural mesothelioma: is IMRT better?

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Purpose: To evaluate different radiotherapy techniques in mesothelioma patients irradiated after chemotherapy and radical surgery.
Materials and methods: Between 3−2003 and 11–2004, 10 patients with pleural mesothelioma were found eligible for multi-modality treatment, consisting of 3 cycles of chemotherapy (CDDP-Pemetrexed), extrapleural pneumonectomy and radiotherapy. Radiotherapy was targeted to the entire pleural cavity, encompassing the Goretex-patch reconstruction of the diaphragm and pathologically proven sites of nodal invasion. Irradiation aimed at a dose of 54 Gy/1.8 Gy on this entire volume, a boost of 10 Gy/2 Gy was foreseen in case of microscopically incomplete resection. A standard 3D conformal set-up, using oblique fields with table rotation, was compared with an irradiation with IMRT (intensity modulated radiotherapy).
Results: 1 patient was found irresectable during operation and was referred for further palliative chemotherapy. All other 9 patients underwent a macroscopically complete resection. One of these suffered from serious post-operative complications. The remaining 8 were referred for adjuvant radiotherapy (4 left-sided, 4 right-sided). For comparison purposes, all patients were planned with the standard 3D-technique as well as with IMRT. The respective doses and volumes (IMRT data between brackets) to the clinical target volume (CTV) and the organs at risk (OAR, heterolateral lung, liver, heart and spinal cord) are shown in the table.

Patient side*	CTV dose (Gy)		Lung	Liver	Heart	Spinal cord
	mean dose (Gy)	max dose (Gy)	V20 (%)	V30 (%)	V50 (%)	max dose (Gy)
Left	55.9 (54.4)	61.8 (57.5)	0.6 (19.1)	4.5 (8)	47.6 (40.6)	49.9 (47.4)
Right	55.3 (54.4)	59.9 (57.9)	4.1 (19)	68.2 (54)	42.2 (40.6)	50.3 (47.9)
All	55.2 (54.4)	60.9 (57.7)	2.3 (19)	39.4 (31)	44.9 (40.6)	50.1 (47.6)

*Averages.

Conclusions: 3D conformal radiotherapy yields an acceptable target volume coverage with sufficient sparing of the critical organs for left-sided tumours (be it with larger dose inhomogeneity). For right-sided tumours, on the contrary, at least part of the irradiation has to be delivered with IMRT in order to keep the liver dose within acceptable limits, which again is at the expense of the dose delivered to the remaining heterolateral lung.

1387 POSTER

Treatment of bone metastasis in French speaking Europe: the radiation oncologists' options: a GEMO survey

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The GEMO launched in June 2004 a large survey addressed to 4706 physicians taking care of cancer to better apprehend the diagnostic and therapeutic approaches in patients with bone metastasis (BM). TNS sofres Healthcare contacted physicians by mail. 740 send back their questionnaire. 180 of them were interest in radiation therapy. We report only physicians'responses for which oncology represented 100% of their activity. To evaluate the characteristics of the modalities of treatment two clinical cases were proposed. We report the answers for one of them: ie painful BM of T6-T8 in a woman with a long history of breast cancer without spinal compression.
Results: 30Gy/10F protocol was used by 69.4%. 78.3% used 2 opposite beams and 15.7% only one posterior beam. The energy is adapted to the localisation for 39.1% and not in 58.3% (41.7% used 15MV photons, 10.4% 10 MV, 7% 5−6 MV). A dosimetry is realized always or often in 71.3% of the cases. For 71.3% one vertebra is added at each extremity to define the treated target volume and for 21.7% 2 vertebras are added. Hypofractionnated protocol (8 Gy/1 F) is sometime used by 53.9% of responders. The reasons given are the results of the trials, patients in bad condition (72.6%), or very painful (43.5%) or because the department is very busy (25.8%). 44.3% did not used 8 Gy/1 F because they were afraid of the secondary effects (52.9%), the lower efficacy (43.1%), good patient's condition (64.7%) and they are not convinced by the results of trials (23.5%). The criteria used to determine the protocol of irradiation are: Performance status (69.4%), emergency (64.5%), intensity of the pain (43.8%), general prognosis (36.4%).
Conclusion: This survey should be compared with modalities of irradiation used in other countries. High quality irradiation techniques are used in French speaking Europe but hypofractionnated protocolof 8 Gy/1 F is not commonly used.