CTV-MRI-5 mm were defined as CTV-MRI plus 1 mm, 2 mm, 3 mm and 5 mm margins, respectively.
Results: CTV-MRI < 0.5 cc: The sensitivity of tumor detection of MET-PET was 43% (18/42). In 18 lesions, the mean CTV-MRI and CTV-MPET were 0.23 cc and 0.54 cc, respectively. In 18 (100%) of the lesions, the CTV-MPET was located within the CTV-MRI-1 mm.
0.5 cc < CTV-MRI < 2.5 cc: The sensitivity of tumor detection of MET-PET was 95% (18/19). The mean CTV-MRI and CTV-MPET were 1.01 cc and 1.80 cc, respectively. In 17 (95%) lesions, the volume of CTV-MPET extended beyond the CTV-MRI-1 mm was less than 1 cc. In 18 (100%) lesions, CTV-MPET was located within CTV-MRI-2 mm.
2.5 cc < CTV-MRI < 5.0 cc: The sensitivity of tumor detection of MET-PET was 100% (18/18). The mean CTV-MRI and CTV-MPET were 3.36 cc and 4.84 cc, respectively. In 17 (95%) lesions, the volume of CTV-MPET extended beyond the CTV-MRI-2 mm was less than 1 cc.
5 cc < CTV-MRI: The sensitivity of tumor detection of MET-PET was 100% (17/17). The mean CTV-MRI and CTV-MPET were 15.24 cc and 18.41 cc, respectively.
In 14 (82%) lesions, the volume of CTV-MPET extended beyond the CTV-MRI-3 mm was less than 1 cc. In 100% of lesions, CTV-MPET was located within CTV-MRI-5 mm.
Conclusion: On defining the target volume definition in the SRS planning of brain metastases, this ^{11}C-methionine PET study indicates that a margin of 1 mm (CTV-MRI < 0.5 cc), 1−2 mm (0.5 cc < CTV-MRI < 5.0 cc) and 3 mm-5 mm (5 cc < CTV-MRI) should therefore be added to MRI studies.

2509 POSTER

Phase II study of fixed dose rate gemcitabine as radiosensitizer for newly diagnosed glioblastoma multiforme (GBM): preliminary results

C.M. Carapella[1], A. Felici[2], M.A. Mirri[3], A. Pace[4], M.A. Carosi[5], G. Metro[2], B. Jandolo[4], E. Occhipinti[1], F. Cognetti[2], A. Fabi[2]. *[1]Regina Elena Institute, Dpt of Neurosurgery, Rome, Italy; [2]Regina Elena Institute, Dpt of Medical Oncology, Rome, Italy; [3]Regina Elena Institute, Dpt of Radiotherapy, Rome, Italy; [4]Regina Elena Institute, Dpt of Neurology, Rome, Italy; [5]Regina Elena Institute, Dpt of Pathology, Rome, Italy*

Background: Gemcitabine is a deoxycytidine analogue with a wide range of antitumour activity, presenting powerful radiosensitizing activity at non-cytotoxic concentrations. On this basis, several phase I/II studies have presently been designed on different tumours with concurrent radiation therapy. In malignant glioma few data are presently available on the effects of gemcitabine, with unsatisfactory results as a single antiblastic agent. In a previous phase I study, conducted in our Institution, where fixed dose rate (FDR) gemcitabine at 10/mg/m^2/min was tested in association with radiotherapy (RT) for the treatment of newly diagnosed GBM, a maximum tolerated dose of 175 mg/m^2/wk was identified. Observed activity has been considered interesting enough to support a phase II study.
Materials and Methods: After surgery for GBM, patients presenting measurable residual tumour were treated with fractionated focal RT at a daily dose of 2.0 Gy per fraction, five days per week for six weeks (total dose of 60 Gys). FDR gemcitabine at 175 mg/m^2/wk was given concomitantly starting 24−72 hours prior to RT, and then for the whole duration of RT. MRI evaluation was performed at 7 and 40 days from the end of chemo-radiotherapy for early therapeutic assessment. Standard oral temozolomide 150–200 mg/m^2 was administrated following the combined experimental treatment, at least until tumour progression or relevant side effects. Tumour response rate, progression free survival, and overall survival time have been considered as main objectives.
Results: From 07/2004 16 patients (9 male, 7 female) have been enrolled. Characteristics of patients were: median age 57 years (42−72), median KPS at baseline 90 (70–100), surgery/biopsy 14/2. Median time from diagnosis to the initiation of gemcitabine was 45 days (28−54). Among the 14 evaluable patients 3 (21.4%) partial responses, 7 (50%) stable disease and 4 (28.5%) progressive diseases were recorded. At a median follow up of 18 months (2−33) time to tumour progression was 6 months (1.5−24). Toxicity was manageable with only one G3 neutropenia and hypertransaminasemia in two patients respectively. Grade 1 hypertransaminasemia was registered in 6 patients (43%).
Conclusions: These preliminary results show that in patients with newly diagnosed GBM, radiosensitizing FDR gemcitabine at 175 mg/m^2/wk is a well tolerated regimen with an interesting activity. Accrual is ongoing and more extensive results will be presented.

2510 POSTER

Radiosensitized treatment of metastatical brain tumours with hematoporphyrin derivative

L. Bloznelyte-Plesniene, L. Rutkovskiene. *Vilnius University, Laboratory of Laser and Photodynamic Therapy, Vilnius, Lithuania*

Background: The aim of this work was to investigate and to enlarge the possibilities of sensitized malignant tumor treatment using some derivatives of hematoporphyrin (HpD) as a radiosensitizer. In this paper we have reviewed our results of radiosensitized treatment (RST) of metastatical brain tumors.
Materials and Methods: From 2000 to 2006 the total of 33 patients with metastatical brain tumors underwent RST. HpD was injected i.v.; 24, 48 and 72 h after injection of the sensitizer tumors were irradiated with gamma rays 2 Gy at a time from radioactive ^{60}Co (the full dose of the course was 6 Gy). 7 patients underwent a single course of RST, for the rest RST was repeated.
Results: The primary result was already noticeable during the treatment. Especially rapid effect was observed in the patients, who had been in a critical condition. 9 of these 14 patients began to walk, to speak and even to read within two weeks. Nausea disappeared in 8 patients. The Karnofsky performance scale index increased immediately after RST in 29 patients. As the immediate result of RST of metastatical brain tumors all malignant brain tumors (22) in 8 patients fully disappeared. In 6 patients 13 tumors disappeared after a single RST course, and in 2 patients 4 tumors disappeared after some RST courses. However the recurrent disease – new brain metastasis was noticed in three patients. The repeated single RST course was sufficient for the complete regression of all brain metastases in two patients. CT or MRI examinations, provided 3−6 weeks after each RST course, revealed the regression of tumor in 27 patients. As the result of RST, 9 patients were without metastatical brain tumors for 74, 51, 14.5, 12.5, 12, 10, 9, 6 and 5.5 mo. after RST. The median survival of patients (from the moment of brain metastases detection) treated by the addition of RST was 15 mo. Comparing it with the 4.5 mo. median survival of 171 control group patients, it was statistically significant longer. The median survival of patients from the first course of RST was 9 mo.
Conclusions: RST is a new and effective method of treatment in metastatical brain tumors. The effectiveness of RST depends on the morphological type of tumor.

2511 POSTER

Imatinib plus hydroxyurea in pretreated non-progressive glioblastoma (GBM) – a single center phase II study

G. Dresemann[1], C. Hosius[2], Z. Nikolova[3], L. Letvak[4]. *[1]Christophorus Kliniken Franz-Hospital, Oncology, Dülmen, Germany; [2]Novartis Pharma, Oncology, Nürnberg, Germany; [3]Novartis Pharma, Oncology, Basel, Switzerland; [4]Novartis Pharma, Oncology, East Hanover, USA*

Background: GBM is a highly malignant brain tumor with a median survival of about 15 months. Dysregulated signalling of platelet derived growth factor receptors (PDGF-Rs) is implicated in pathogenesis. The combination therapy of Imatinib (I) plus Hydroxyurea (HU) showed impressive efficacy and tolerability in patients (pts) with recurrent progressing GBM. In a pilot group of 30 pts with recurrent GBM the progression free survival at 6 and 24 months was 32% and 16% respectively. Disease stabilisation (SD) was achieved in 37%. Prolonged disease stabilisation for more than 2 years was possible. Despite the aggressive course of GBM, short periods of disease stabilisation after primary treatment or effective treatment of relapse are observed. The current Phase II study was conducted to analyze the efficacy of I plus HU treatment in GBM pts with documented disease stabilisation for at least 6 weeks as maintenance treatment.
Methods: From December 2003 up to June 2005 30 non-progressive GBM pts were included, all of them with SD for more than 6 weeks following effective treatment, including surgery, radiotherapy and at least one chemotherapeutic regimen. No enzyme-inducing anticonvulsive drugs were allowed. I at the dose of 600 mg od and 1000 mg of HU (500 mg bid) were given as a continuous daily treatment, all pts were followed up by blood cell count weekly and magnetic resonance imaging every 6 weeks.
Results: All 30 pts are eligible for safety and for 6, 12 and 24 months progression free survival (PFS) and overall survival (OS); 25 pts are male, 5 pts female, the median age is 44 years (32 to 71), 24 pts had primary and 6 pts secondary GBM. All 30 pts had prior radiotherapy, 21 pts had temozolomide containing chemotherapy and 9 pts non-temozolomide containing regimens only. 8 pts were free from relapse, 17 pts after first and 5 pts after second relapse. The median observation time is 31 months. 6, 12 and 24 months PFS is 60% (18/30), 40% (12/30) and 17% (5/30) respectively. 6, 12 and 24 months OS is 90% (27/30), 67% (20/30) and 37% (11/30) so far. PFS for more than 24 months occurred in 3/6 pts with secondary and in 2/24 pts with primary GBM. Hematotoxicity grade 2