907 POSTER

Concomitant chemoradiotherapy (CCR) for brain metastasis. Results of a phase I–II study

R. Mahjoubi[1], O. Brugière[2], A. Le Rol[3], J.F. Llory[1], J.M. Vannetzel[1,2]. [1]Aretasc, Clinique Hartmann; [2]Hôpital Beaujon; [3]Hôpital du Perpétuel-Secours, France

To determine the feasibility and efficacy of CCR we have treated between 3/93 and 2/96, 57 pts = NSCLC: 32 pts, breast: 9 pts, SCLC: 6 pts, ADK without primary: 8 pts, others: 2 pts. Median age was 62 years (39–74); 35 women and 22 men. Brain metastasis were multiple in 31 pts. Treatment consisted of whole brain RT for a total dose of 40 Gy/20 f/26 d. Pts received 3 cycles of chemotherapy with cisplatin 60 mg/m2/d 1 IV and etoposide 60 mg/m2/d × 5 per os each 14 days (d 1 = d 14 = d 28), cycle 1 beginning on d 1 of RT.

For all pts, main toxicities were: *Gr 3:* Hb: 2 pts; PNN: 5 pts; Plq: 2 pts; Mucositis: 1 pt; *Gr4:* Plq: 2 pts; Mucositis: 1 pt. One pt presented septic choc after the third cycle and died. Brain CT scan was performed 1 month following completion of therapy. Major radiological response was observed in 42% of the pts including 5 complete response and 19 pts in partial response. Nine pts were inevaluable for response, 7 of them were died before evaluation, 15 pts were stable and 9 progressed.

This study showed the feasibility of CCR for brain metastasis. Response rate was encouraging. A phase III study comparing CCR vs RT alone merits to be activated referring to the absence of important data in the literature.

908 POSTER

Phase II study of IV RMP-7 + carboplatin in recurrent malignant glioma who grade III–IV previously treated with chemotherapy

A. Gregor, C. Lebrun-Frénay, C. Osborn. *On behalf of the European RMP-7 Glioma Study Group; University of Edinburgh, Clinical Oncology, Western General Hospital, Edinburgh, UK*

Selective bradykinin analogue RMP-7 transiently increases the permeability of the blood brain barrier and the delivery of hydrophilic agents into brain tumours.

Aim: To assess clinical and 3-D MRI response and toxicity of RMP-7 (300 ng/kg) + carboplatin (AUC 5–7) in the treatment of recurrent glioma, WHO histology III + IV, where patients have had previously received chemotherapy.

Methods: 42 patients (median age 45, Karnofsky 70%) were treated q 28 days. Neurological impairment, performance status and steroid use were measured over 4 cycles, plus tumour volume by 3-D MRI at the end of cycles 2 & 4.

Clinical responders = stable or improved compared to baseline, and steroids stable or reduced, for ≥2 cycles. Primary evaluation of first 4 cycles.

Results:

% Patients Responding By Assessment Tool: Intent To Treat Analysis.

Assessment	All	Grade III	Grade IV
EFIT[1]: improved/stable (n = 40)	7/33	47	38
Karnofsky: stable + improved (n = 41)	49	56	46
MRI volume: PR/SD[2] (n = 37)	3/22	6/38	0/10

[1] an objective, validated measure of neurological impairment. [2] CR ≥ 95% volume reduction + off steroids; PR > 50% reduction + stable or reduced steroids; PD > 50% increase; SD all other situations. All maintained ≥2 cycles.

Toxicity: no deaths, 1 thrombocytopaenic withdrawal. Thrombocytopaenia and/or neutropaenia CTC grades 3/4: 3% at baseline; 36% at cycle 1; 22% at cycle 2; 19% at cycle 3; 7% at cycle 4. 5 patients had treatment associated transient focal seizures.

Conclusions: Clinical and MRI response is promising and toxicity is mild.

909 POSTER

Estereotactic radiosurgery for single brain metastases

M. Santos Ortega, S. Rodríguez Villalba, G. Donckaster, F. Sansivirini, M.C. Rubio, J. Samblás, J.C. Bustos, J.A. Gutiérrez, D. Ortiz de Urbina, M.I. García Berrocal, F.A. Calvo. *Radiosurgery, Radiotherapy and Oncology Unit, San Francisco De Asis Foundation, Madrid, Spain*

Purpose: To describe technique and results of radiosurgery (RS) in an unselected group of patients with apparent single brain matestases.

Methods and Materials: From Aug 91 to Jun 96, 49 patients were treated with linnear accelerator RS. Patients characteristics were: 33 male, 16 female, median age 56 years (range 29–77 years). Tumors characteristics included: primary site in lung (22), breast (11), melanoma (5), hipernephroma (4), colon (2), and unknown origin (6), breast + colon (1). Supratentorial involvement was present in 42 cases, active extracranial disease was evident in 36 patients (73%). Treatment characteristics. median value of target volume size 9.985 mm3 (range 160–55.968 mm3); single isocenter used in 37 procedures (75%); median RS dose was 1500 cGy (range 900–2.000 cGy); additional whole brain fraccionated radiotherapy was given to 19 patients.

Results: Median survival time is 11 months. At the time of last analysis 59% of patients are dead. Local control rates at 1 and 2 years is 89% and 84% respectively. Actuarial projected survival at 5 years is 28%.

Conclusions: RS is an excellent radiation technique in the treatment of patients with single brain metastases. Updated information will be presented including multifactorial prognostic variable analysis.

910 POSTER

Radiosurgery alternatives and outcomes

L. Gaspar, J. Fontanesi, L. Zamorano, A. Garzon, F. Diaz. *Department of Radiation Oncology, Wayne State University, Karmanos Cancer Institute, Detroit, Michigan, USA*

Purpose: To evaluate the role of radiation oncology in case selection in an academic center offering linac-based and gammaknife stereotactic radiosurgery.

Methods: Between Oct 1992–Dec 1994, 90 patients with brain tumors were referred by neurosurgery to radiation oncology for radiosurgery. Twenty three patients (26%) were ultimately observed or treated by other means.

Results: Diagnosis in the 23 patients was meningioma in 7, pituitary adenoma in 8, brain metastases in 3, glioma in 2, glomus jugular in 1, hemangioblastoma in 1, acoustic neuroma in 1. Radiosurgery was not given for the following reasons: 10 patients were given the option of observation, 9 patients opted for fractionated radiation therapy, 4 patients were considered to be at high risk of late complications following radiosurgery, and 1 patient was in poor general condition. Treatment following the radiation oncology consult was fractionated external beam radiation (13 patients), no treatment (9 patients), or surgery (1 patient). Late toxicities have not yet been demonstrated in any patient treated with fractionated radiation therapy. With a median follow up of 24 months, no patient has progressed within the area of treatment. No patient under observation has required treatment for the lesion being followed.

Conclusion: This study demonstrates the need for radiation oncology to work closely with neurosurgeons to present alternatives to radiosurgery.

911 POSTER

Low dose hyperfractionated craniospinal radiation therapy for childhood cerebellar medulloblastoma: Early results of a phase I–II study

U. Ricardi[1], L. Besenzon, L. Cordero di Montezemolo, M. Cenni, S. Sandri, L. Genitori[2], A. Urgesi[1]. [1]Radiotherapy; [2]Neurosurgery Department, Ospedale Regina Margherita-S. Anna Department of Pediatric Oncology, University of Torino, Italy

Purpose: To report feasibility and early results of low dose hyperfractionated craniospinal radiation therapy (HFCSI) with chemotherapy for childhood cerebellar medulloblastoma.

Methods and Materials: Twenty-two patients were treated postoperatively for two months with pre-HFCSI chemotherapy (HD-MTX, VCR, CBDCA and VP16). All patients received HFCSI (1 Gy bid, 6 h apart), with 66 Gy to the posterior fossa and 30 Gy to the whole brain; the first 8 patients (Group A) received 30 Gy to the spinal axis, while subsequent 14 patients (Group B) received 36 Gy to the spine. In case of leptomeningeal disease (M1 or M3), 40 Gy were delivered to the spinal axis, with boost on macroscopic lesions up to 50 Gy. All patients were given four "8 drugs in 1 day" cycles after the end of radiotherapy.

Results: During a median of 2 years of follow-up (range 9 months to 6 years), there have been nine treatment failures in 22 patients, seven in the Group A and two in the group B. Five early and isolated spinal failures (range 6 to 18 months after surgery) occurred in patients treated with 30 Gy to the axis. HFCSI, after intensive chemotherapy, was feasible; no patient suffered delays during radiation therapy longer than 7 days. Adjuvant chemotherapy was difficult to give after HFCSI, even in patients treated with 30 Gy to the spine.