their second metastatic relapse. Primary end point is the DFS at 12 months compared to a historical group of patients.
Results: To date, we have enrolled 17 patients: 8 patients were enrolled in the Viscum arm and 9 patients in the Etoposide arm, 8 female and 9 male, median age 35 years (11−65), median follow up 19 months (1−42). Median DFS is currently 17.5 months (5−42) for the Viscum album arm and 4 months (1−12) for the Etoposide arm. Viscum patients had a lower toxicity compared to patients treated with Etoposide. An interim analysis will be done once we have 20 treated study patients (10 for each arm).
Conclusions: Viscum album showed promising results as adjuvant treatment in prolonging DFS after a second relapse. It seems to have the same advantages compared to other immunostimulants (IFN, MTP-PE) at lower costs. A larger multi-center trial would be desirable to determine efficacy of Viscum therapy in osteosarcoma patients compared to other immunostimulants currently approved in osteosarcoma treatment like Mifamurtide.

9428 POSTER

Pharmacokinetics and Pharmacodynamics of Liposomal Mifamurtide in Patients With Osteosarcoma

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Background: Liposomal mifamurtide (muramyl tripeptide-phosphatidyl ethanolamine; L-MTP-PE, MEPACT®) is an immunomodulator indicated for osteosarcoma (OS) treatment in combination with post-operative multi-agent chemotherapy. Here we report the results of a pharmacokinetic (PK) and pharmacodynamic (PD) substudy in a primarily pediatric and adolescent high-grade OS population in an ongoing compassionate use study (MTP-OS-403; EudraCT 2009–017204−89).
Materials and Methods: Patients with relapsed or metastatic OS received L-MTP-PE at 2 mg/m^2 via intravenous infusion over 30 or 60 mins twice-weekly for 12 weeks then weekly for 24 weeks. Blood samples were collected for up to 72 hours following the first infusion. Serum MTP-PE concentrations were measured by LC-MS/MS; TNF-α and IL-6 levels were by sandwich immunoassay. PK/PD data were analyzed by noncompartmental analysis using WinNonlin.
Results: Data from 28 patients were included in the PK (17/11 had 30-/60-min infusions) and 27 in the PD (13/14 had 30-/60-min infusions) analyses. The median (range) age was 15 (6−39)/15 (6−42) years and body surface area (BSA) was 1.58 (0.77–2.31)/1.55 (0.77–2.24) m^2; 61%/56% were male. Following an initial rapid decline in MTP-PE serum concentrations during the first 30 mins after infusion cessation, MTP-PE serum concentrations declined in a log-linear manner over 2−6 hours post-dose with a mean (%CV) terminal half-life of 2.04 hours (22%). BSA-normalized geometric mean (%CV) clearance was 1,250 mL/min/m^2 (43%) and steady-state volume of distribution was 262 L/m^2 (45%). Serum IL-6 levels peaked at 4 hours (regardless of infusion duration) and TNF-α peaked at 2 hours in the 30-min and 4 hours in the 60-min group, returning to baseline ~24 hours post dose. No readily apparent relationships were observed between age and BSA-normalized MTP-PE clearance or effects on serum IL-6 and TNF-α.
Conclusions: The PK properties of L-MTP-PE observed in this study in a largely pediatric and adolescent OS population are similar to those previously reported in healthy adults (Venkatakrishnan et al. ENA 2010, abstract 661). Importantly, there were no readily apparent effects of age on BSA-normalized MTP-PE clearance and the immunomodulatory PD effects. These results support the use of L-MTP-PE at the current recommended dose of 2 mg/m^2 across the age range relevant to its indication in the treatment of OS. Evaluation of safety and efficacy is ongoing.

9429 POSTER

MGMT Promoter Methylation in Soft Tissue Sarcoma

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Background: Gene silencing of MGMT (O6-methylguanine-DNA methyltransferase) by promoter methylation increases the efficacy of combined therapy of alkylating chemotherapeutic and radiation. The purpose of this study was to assess the frequency of MGMT promoter methylation in soft tissue sarcoma to identify patients eligible for alkylating agent chemotherapy with concurrent radiotherapy.
Material and Methods: Paraffin tumour blocks of 61 patients with different STS subtypes were evaluated. The methylation status of the MGMT promoter was assessed by methylation-specific polymerase-chain-reaction analysis. Furthermore immunehistochemistry was applied to verify expression of MGMT.
Results: MGMT promoter methylation was detected in 12/61 patients (19%, 4/17 liposarcoma, 3/11 MFH, 1/8 leiomyosarcoma, 0/8 myxofibrosarcoma, 1/8 MPNST and 3/9 synovial sarcoma). There was no correlation of MGMT promoter methylation with age, gender, tumour grade, size or site.
Conclusion: Generally, MGMT-promoter methylation is not a frequent event in soft tissue sarcoma. A general recommendation to use alkylating agents combined with irradiation in soft tissue sarcoma cannot be justified. However, there might be subtypes like synovial sarcoma better prone for radiosensitizing with alkylating agents based on MGMT promoter methylation results. Further research in this area is clearly warranted.

9430 POSTER

Assessing Tumour Diameter Versus Tumour Volume as a Prognostic Value at Diagnosis in Rhabdomyosarcoma

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Objective: The purpose of this study is to determine whether measuring tumour volume is more prognostic than tumour maximum diameter at the time of diagnosis and local control for pediatric rhabdomyosarcoma patients.
Patients and Methods: Medical records of one hundred and nine patients who were diagnosed with rhabdomyosarcoma from July 2007 till July 2010 were reviewed retrospectively. Eighty-seven cases were found to be non metastatic. And, for the sixty-two patients with measurable disease, patient demographics, including age, sex, pathologic report as well as surgical grouping were obtained. Tumour diameter was assessed radiologically at diagnosis, at time of local control and at end of treatment. The initial CT, MRI, or both, were obtained for all patients (n = 62) and were reviewed by the study radiologist. Also, we estimated the association between patients' characteristics and the risk of failure or death using cox proportional hazards regression models.
Results: The tumour diameter ranged from 1.8 to 18 cm with a mean of 6.7 cm and a tumour volume ranging from 1.62 to 1099.7 cm^3 with a mean volume of 139.7 cm^3. No significant correlation was found between tumour diameter or tumour volume with sex, age or histological subtype. Both initial tumour diameter and tumour volume did not have a significant effect on overall survival but both had a significant effect on failure free survival.
Conclusion: Both tumour diameter and tumour volume changes significantly affects failure free survival and both act as a good prognostic factor to detect treatment response.

9431 POSTER

Whole-body-PET/MRI a New Way of Imaging in Soft Tissue Sarcomas

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Background: Simultaneous positron emission tomography (PET) and magnetic resonance imaging (MRI) is a new imaging technique combining metabolic and cross-sectional diagnostic imaging. Up to now the only available clinical data are drawn from feasibility studies in small series of head and neck cancers and intracranial tumours. So far there exist no data of PET/MRI for evaluating soft tissue sarcomas (sts). MRI is the recommended imaging method in most types of sarcomas. PET is of emerging importance for the management of patients with sts. The combination of MRI with metabolic PET imaging could provide an interesting approach for imaging in sts.
Methods: We report the first two patients examined with an Ingenuity PET/MRI system (Philips Healthcare). It combines a 3 Tesla MRI scanner and a PET scanner with time-of-flight technology. MRI and PET data are acquired sequentially in analogy to PET/CT. All patients were examined before start and after two cycles of chemotherapy. The first patient