

growth. Besides hyposthesia of the left arm and shoulder, she had no other symptoms. The laboratory studies were normal and the biopsy of the mass revealed an eosinophilic granuloma, CD1a and S100 +. The CT scan of the thorax showed a mass in the anterior mediastinum and the bone scan revealed involvement of the sternum. It was considered as a Single System LCH and the pt began therapy with prednisone. After 6 weeks, the CT showed progression. It was decided to submit the pt to Chemotherapy (ChT) according the protocol of the Histiocyte Society (HS) LCH2 study. She completed 6 cycles with partial response and resolution of the symptoms. At this time, she had leukocytosis and eosinophilia. The bone marrow biopsy was normal and it was decided to complement treatment with local Radiotherapy. At the end of RT the blood count was normal and since she had no HLA-matched donor she was kept with no other treatment. Two months later, she initiated a lumbar pain and B symptoms. The CT showed multiple lumbar adenopathies, where biopsies were performed. The biopsies were inconclusive. Progression of LCH was assumed and salvage ChT according the protocol of the HS was initiated. After 2 cycles the pain persisted with increased intensity. A PET scan revealed multiple bone, nodal and splenic lesions and ALTC was diagnosed on a bone marrow biopsy. She began ChT with ICE plus alemtuzumab. Once again the symptoms resolved, but persistent pancytopenia lead to suspension of treatment after 4 cycles, despite dose reduction. The pt died 5 months later with progressive disease. This case is other example of the association of LCH and another lymphoid neoplasia and illustrates how important it is to repeat biopsies whenever disease progression is suspected.

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Education and psychosocial adaptation of multiple myeloma patients

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Introduction: The essence of multiple myeloma (mm) patient's education is in providing specific knowledge about disease and treatment, and in giving psychosocial support. Informed and educated patients are able to save self-esteem, to establish good relationship with social environment and to achieve better social participation. The aim of this study was to investigate the impact of the education on mm patient's self-image and the impact of the education on mm patient-social environment relationship.

Patients and methods: 64 (38 women and 26 men, age 32-75 yrs) mm patients entered the study experimental group (E, n=32) and control group (K, n=32), all matched regarding age and educational level. The patients of E group differed in regard to their previous education; this group underwent the Greek Educational Programme "Learning to live with multiple myeloma" over 3 months. Both groups answered questionnaire specifically designed to assess self-image of mm patients and relationship with social environment.

Results: The education significantly improved self-image in E group when compared to K group (P 0.02).

Conclusions: The education has important contribution in establishing selfmanagement approach in which patients assume responsibility for their behavior, for changing their environment, and for planning their future. For successful multiple myeloma patients' psychosocial adaptation and social participation, it is necessary that the whole society provides more resources for psychosocial support.

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Assessment of receptor activator of nuclear factor kappa B ligand (RANKL) and osteoprotegerin (OPG) in lymphoma patients

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Background: Receptor activator of nuclear factor B ligand (RANKL), also Known as, is a type two transmembrane protein that belongs to the TNF superfamily. Recent studies showed expression of RANKL in Hodgkin's Lymphoma and follicular non Hodgkin's Lymphoma and an antiapoptotic role for this factor has been postulated. The aim of this study was to assess the RANKL and Osteoprotegerin (OPG) in patients with lymphoma, and its role in relation to prognostic factors.

Subjects and methods: The study was carried out on the following group of patients: 15 patients with Hodgkin disease, 30 patients with Non-Hodgkin lymphoma, 15 healthy subjects matching age and sex as patients group. RANKL and OPG in serum by ELISA was measured in all patients and control groups.

Results: RANKL was higher among Hodgkin group compared to control group with highly significant difference inbetween both groups as regard RANKL (p<0.01), Hepatosplenic infiltration was more common among patients with Hodgkin disease and high RANKL. Positive correlation between RANKL and adverse prognostic parameters (LDH, advanced stage, number of extranodal site, ESR). Positive correlation was found between ESR, ALP, GGT, stage of Hodgkin and RANKL. As regard patients with Non-Hodgkin lymphoma we found that: RANKL was higher among non-Hodgkin group compared to control group (p<0.05). No significant correlation between RANKL and grade (low, intermediate and high). OPG results were insignificantly different among the studied groups.

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High dose methotrexate followed by temozolomide plus concomitant radiation therapy in patients with newly diagnosed primary central nervous system Lymphoma: Preliminary results of a phase I dose escalation study

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Background: A phase I trial was designed to determine the maximum tolerated dose (MTD) of concurrent Temozolomide (TMZ) to radiotherapy (RT) after high dose of Metotrexate (MTX-HD) in newly diagnosed of Primary Central Nervous System Lymphoma (PCNSL). Materials: Patient eligibility criteria were age >18 yrs, pathologically proven PCNSL and informed consent form. After MTX-HD schedule, patients received radiotherapy concomitantly to escalating dosages of TMZ (50-60-75 mg/mq/die for 5 days/week). Radiotherapy treatment was conformed on two different clinical target volume (CTV) delivered in sequence: CTV2 comprised whole brain plus leptomeninges until C2; (30 Gy-2 Gy/die) while CTV1 was the initial site of disease plus residual mass if present. The dose to CTV1 was prescribed according to response obtained by MTX-HD (6Gy if complete, 10Gy if partial, 16Gy if progression disease). Dose-limiting toxicity (DLT) was any grade >4 acute hematological toxicity (RTOG score) or any grade >3 acute hepatic toxicity. The MTD would be exceeded if 2 of 6 patients in a cohort experienced DLT.

Results: Characteristics of 6 enrolled Eypatients were: M/F: 3/3; median age: 56 yrs (range 54–73); 4/6 patients received two cycles of MTX-HD, 2/6 only one cycle because of hepatic and renal toxicity. Three out of six patients received TMZ at the dose of 50 mg/mq/die and 3/6 at the dose of 60 mg/mq/die. All patients completed RT-CT without interruptions. Only one patient presented grade-2 treatment related acute haematological toxicity. Median follow-up was 11.5 months (range 5–30). No patient experienced MTD.

Conclusion: RTCT with concomitant TMZ at a dose of 60 mg/mq/die is well tolerated; further dose escalation is ongoing to define MTD before prospective phase II study.

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High frequency and prognostic importance of autoimmune hemolytic anemia in splenic marginal zone lymphoma

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Background: Splenic marginal zone lymphoma is a rare disease, accounting for 1% of all lymphomas. The main disease features are splenomegaly, lymphocytosis and cytopenias. Autoimmune phenomena have been reported to be present in 9 to 20% of the patients. SMZL generally has an indolent clinical course with a 5-year survival rate of 65–72%.

Methods: Between May, 2000 and May, 2009, 23 patients were diagnosed with SMZL at our department. One of these patients has SMZL and hairy cell leukemia derived from two different neoplastic clones.

Results: Based on the prognostic model developed by Intergruppo Italiano Linfomi 26% (6/23) of our patients had good, 39% (9/23) had intermediate and 35% (8/23) had a poor prognosis. The presence of two out of three prognostic factors (anemia, elevated LDH, low serum albumin) assigns the patient into the high risk category. All patients had a serum albumin level within the healthy reference range. We have observed the presence of autoimmune hemolytic anemia (AIHA) according to immunohematological features in 10 out of 23 patients (43%). Six out of 10 cases were complicated by clinically important AIHA, and four of them died 5–28 months after the diagnosis. The median follow-up time of those 15 patients (65%) who are still alive is longer than 54 months (8–118). Only one patient had autoimmune thrombocytopenia.

Conclusions: In SMZL patients with clinically important hemolysis, the outcome seems to be especially poor. Direct antiglobulin test (DAT) positivity itself, without clinically important hemolysis does not influence outcome, these patients became DAT negative following splenectomy. For patients with SMZL with or without AIHA, splenectomy is of utmost importance. The prognostic effect of rituximab remains to be evaluated.

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Significant reduction of second breast cancer risk in patients treated with involved nodes radiation therapy for early stage Hodgkin's lymphoma

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Aim: To evaluate the impact of Involved Nodes Radiation Therapy (INRT) in comparison with Involved Fields Radiation Therapy (IFRT), and of low-dose INRT in comparison with standard-dose INRT, on individualized breast cancer (BC) risk in patients enrolled by our Institution in the EORTC-GELA-III H10 trial for stage I–II supra-diaphragmatic Hodgkin's Lymphoma (HL).

Materials and Methods: Ten HL female patients under 30 yrs old (with mediastinal involvement) were treated with INRT 30 Gy. Two additive RT plans were then constructed for comparison: IFRT 30 Gy and INRT 20 Gy. IFRT volumes were defined according to standard guidelines, while INRT volumes according to H10 trial guidelines. Breast-specific differential Dose Volume Histograms (DVHs) were generated, estimating mean bilateral breast dose and volumes receiving 5 (V5), 10 (V10), 15 (V15) and 20 Gy (V20). DVHs data were then incorporated into a cell initiation/inactivation/proliferation risk-model in order to estimate Excess Relative Risk (ERR) of radiation-induced BC at 20 years.

Results: Compared with IFRT30, INRT30 and INRT20 reduced mean breast dose by 57 and 71%; a similar reduction was shown for V5 (61 and 68%), V10 (60 and 81%), V15 (59 and 81%) and V20 (71 and 80%). When comparing mean ERR associated to IFRT30 (considered as reference) with INRT30 and then with INRT20, a reduction by 55% and by 69% was respectively estimated.

Discussion: Radiation-induced breast cancer is a major issue when treating young patients with combined modality treatment for HL. Our data show an important reduction of breast volumes receiving low, intermediate and high doses when INRT is employed; this reduction translates very well in a significant reduction of BC induction probability. A further reduction is possible when doses as low as 20 Gy are employed. Mini-radiotherapy approach after chemotherapy has to be prospectively validated, but preliminary findings suggest a minimal increase of BC risk.

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Bendamustine in relapsed or refractory indolent lymphoproliferative disorders: A single centre experience

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Bendamustine, an alkylating agent with a unique mode of action has shown considerable activity in lymphoid malignancies, both as monotherapy and in combination with Rituximab. We treated 16 patients with relapsed/refractory indolent lymphoproliferative disorders (6 follicular lymphoma, 6 chronic lymphatic leukaemia, 2 small lymphocytic leukaemia, 2 mantle cell lymphoma) with Bendamustine monotherapy and in combination with Rituximab on a compassionate use programme from December 2008 to January 2010. The median age of patients was 70 years (range 53–87) and had previously received a median of