of CT and RT improved survival in pts with PCNHL. Despirte whole brain RT, patients with CR recurred within the brain, outside the primary site. As combined MTX and RT had adverse effects on cognitive functions, whole brain RT is questionable in pts with PCNHL

1351 POSTER

Primary breast lymphoma

J. Cotrina, C. Carracedo, J. Abugattas, J. Arias Stella, L. Leon, C. Vigil, R. Velarde, L. Casanova, M. Zaharia, C. Vallejos. *Instituto de Enfermedades Neoplasicas, MEDICINE, Av. Angamos Este 2520, 34 Lima, Peru*

Background: Primary breast lymphoma is a rare disease, represents 0.1% of breast malignancies and 2.2% of all extranodal non Hodgkin's lymphomas. The literature has reported about 300 cases. We reviewed the experience of the Instituto de Enfermedades Neoplásicas (Lima-Peru) from 1952 to 1997.

Methods: We found 17 patients with primary breast lymphoma. Twelve received treatment in our institution, and 11 of this had complete treatment. The follow-up was from 12 to 120 months. The chemotherapy an radiation therapy were the elective treatment. Some patients were subject to surgery.

Results: All the patients were females. The mean age was 45.4 years (15–69 years). The mean period of disease was 3.9 months. The sympton was breast mass in 11 patients and 1 had skin erythema. The histologyc were: WF:G, 5 (41.7%); WF:A, 2 (16.7%); WF:H, 2 (16.7%); WF:B, 1 (8.3%); WF:I, 1 (8.3%); and WF:F, 1 (8.3%). 4 stage IE, 4 stage IIE, and 4 stage IVE. Of 11 patients who received complete treatment, Five patients were treated with CHOP and COPP. (3 patients with cytologyc diagnostic of carcinoma, receiving chemotherapy after surgery) Six patients received Chemo and radiation therapy; One patient died three years after received treatment for other cause, and 7 are alive at present time, all without disease evidence. Three patient after two years developed recurrence with subtype diffuse, large cell WF:G lymphoma. Of all patients who are alive or died without disease evidence, 2 were stage IE 3 stage IIE; and 3 were stage IVE with follow-up of 3 to 9 years. Of the 9 patients with 3 or more years of follow-up, 6 (66.7%) are free disease, and the 8 patients who are alive and coming to control, 5 (62.5%) are free disease at 5 or more years.

Conclusions: The diffuse, large cell WF:G lymphoma was the predominant histologyc subtype. The chemotherapy and radiation therapy are the treatment of choice with a 62.5% of survival at 5 years for any stage.

1352 POSTER

Bendamustine in the therapy of lowgrade malignant lymphomas

J. Preiss, H.K. Heck, P. Schmidt. *Department of Hematology and Medical oncology, Caritasclinic St. Theresia, Saarbruecken, Germany*

Purpose: Palliative treatment of advanced low/intermediate grade lymphomas is charcterized by high remission rates, short remission duration and necessitiy of subsequent therapies. Lacking curability, quality of life is a major issue. A therapeutic option is the alkylating agent bendamustine (*be*); is associated with little toxicity and good tolerability, even in older patients. We present the data of a retrospective analysis of 34 patients, treated with be single agent or combination therapy with mitoxantrone (*mitx*).

Methods: 34 patients (age 48–82, mean 63) were treated with be (21) or *be/mitx*(13). Disease entities: follicle center (fc) 13, lymphoplasmocytic (lp) 9, lymphocytic (lc) 9, mantle cell (mc) lymphomas 2, plasmacytomas (pl) 3. Treatment: *be* 100 mg/m^2, d 1–3, with or without mitx 6 mg/m^2, d 1–2. Mean number of cycles was 3.8.

Results: Overall remission rate was 61% (29% CR, 32% PR); NC 24%, PD 15%. Results, discriminated by hisologic subtype: *CR:* fc 6, lp 3, lc 1; *PR:* fc 3, lp 2, lc 4, mc 2; *NC:* fc 2, lp 4, lc 1, pl 1; *PD:* fc 2, lc 1, pl 2. Remission duration was 8–11 months for patients with CR, PR and NC. *be* single agent therapy resulted in 48% CR/PR, the combination regimen in 69% CR/PR.

Toxicity: Hematologic: 8 cases of grade 3/4 leukopenia/thrombocytopenia. Nausea/emesis grade 2 was observed in 11 patients, grade 3 in 3 patients. Alopecia (g 3) was only seen in patient.

Conclusion: Be and *mitx* are effective drugs in the palliative treatment of low/intermediate grade malignant lymphomas. Single agent and combination treatment are well tolerated; dose limiting is hematotoxicity. To further define the role of bendamustine-based therapy, randomized studies, comparing it with actual standard treatment are necessary.

1353 POSTER

HCV and non-Hodgkin lymphomas: A retrospective study

A. Abbadessa, V. Belsito Petrizzi, L. Liguori, O. Villani, S. Iaccarino, C. De Luca, G. Abbadessa, P. Ferravante, G. De Simone, M. De Rienzo. *Dip. Intern. Clin. Sper. "F. Magrassi", II Università Napoli, Italy*

Purpose: As reported by several studies, the prevalence of HCV-infection in B-cell lymphoproliferative disorders (19%) appears to be significantly higher than in other hematological malignancies as in the general population (2.3%); the correlation emerges also from recent virological and histopathological data. In a retrospective study based on a series of 91 patients affected by B-cell non-Hodgkin lymphoma (NHL) or other lymphoproliferative disorders diagnosed in our Institution, the prevalence of HCV infection was evaluated.

Methods: HCV serological markers were investigated at diagnosis in 43 women and 48 men affected by B-cell lymphoma, except when a diagnosis of chronic HCV-related hepatitis was documented.

Results: 11 cases of a series of 91 consecutive patients resulted positive for serological markers of HCV-infection (12.1%). Among these 4 were low grade, 3 high grade, and 2 intermediate grade lymphomas second W.F.; the other cases included an angiotropic large cell lymphoma and an unclassified B-cell lymphoproliferative disorder.

Conclusion: These data are consistent with an association between HCV-infection and B-cell lymphoproliferative disorders. However the relevant diffusion of HCV-infection in South Italy (1–5%) and the small size of the study require further analysis to indicate a possible role of HCV in the lymphomagenesis.

1354 POSTER

Can we include apoptotic index in prognostic scores in patients with myelodysplatic syndrome

A.D. Bogdanović[1], D.P. Trpinac[2], G.M. Janković[1], V. Čemerikić[1], V. Bumbaširević[2], M.D. Čolović[1]. *[1]Inst of Hematology, University Clinical Center; [2]Inst. of Histology, School of Medicine, Beograd, Yugoslavia*

Objective and Methods: To evaluate the prognostic significance of apoptotic index (AI) and to compare AI with other prognostic scores, Bornemouth (BS) and Spanish score (SS) in 30 patients MDS. The bone marrow samples of 30 pts. with MDS were embedded for semithin morphological analysis (Leukemia 1997) and number of cells in apoptosis were counted and expressed as percentage (AI). According to FAB there were RA and RARS (8 + 3 pts), RAEB + RAEB-t (14 + 2) and 3 pts with CMML. Analysis have been calculated on 50% survival basis ($SRV_{50\%}$).

Results: According to FAB, pts with low risk (RA + RARS) have significant better survival than RAEB/t (OS_{5y} 80% vs $SRV_{50\%}$ 20 m., log rank $p < 0.01$). We have introduced apoptotic prognostic score APS (low AI < 2.5, intermediate AI 2.5–3.99 and high AI > 4). In analysis of APS that patients with low APS survive better then others (>68 m) while pts with intermediate and high APS have worse survival (24 and 17 m). The survival according to APS was similar to survival according to BS and SS. We also found that pts. with low and high APS have significantly different BS (t test $p < 0.05$) but not SS.

Conclusion: Our analysis is influenced by the small number of analyzed patients but we think that apoptotic prognostic score with cutoff of at least of 3% of apoptotic cells (AI) can be used as a simple and reliable prognostic factor in patients with myelodysplastic syndrome and can be included in future prognostic score system.

1355 PUBLICATION

Antileukemic activity and induction of apoptosis by gemcitabine

M. Georgieva[1], S.M. Konstantinov[2], M.R. Berger[2]. *[1]Dept. of Carcinogenesis, National Oncological Center, Sofia, Bulgaria; [2] Unit of Toxicology and Chemotherapy, German Cancer Research Center, Heidelberg, Germany*

Gemcitabine (Gem) is a new deoxycytidine analog which inhibits cellular DNA synthesis by masked chain termination. We studied the cytotoxic efficacy of Gem by MTT-assay in human myeloid HL-60 and K-562 leukemic cells and by investigating DNA fragmentation. BCR-ABL positive K-562 cells were less sensitive to Gem then AML derived HL-60 cells. Gel electrophoresis of DNA isolated from Gem treated HL-60 and SKW-3 showed oligo-nucleosomal fragmentation typical for programmed cell death (5 μM for 20 h). Under the conditions of a cell-free system consisting of cytosolic