9223 POSTER

Prognostic markers in nk/t cell lymphoma and peripheral t cell lymphoma (PTCL): should treatment be guided by histology or prognostic scores?

Y. Ngeow[1], S.M. Chew[1], D. Tan[2], M. Tao[1], S.T. Lim[1]. [1]*National Cancer Centre, Department of Medical Oncology, Singapore, Singapore;* [2]*Singapore General Hospital, Department of Hematology, Singapore, Singapore*

Background: T-cell lymphomas have traditionally been treated uniformly but are clinically distinct in behavior. We aimed to compare the frequencies, clinical characteristics, and prognostic factors of T-cell lymphoma subtypes and implications for treatment.
Materials and Methods: We reviewed 192 consecutive patients with systemic T-cell lymphoma from 1992−2008. All patients had histological review and are classified based on the WHO classification system.
Results: Extra-nodal-NK/T-cell lymphoma and PTCL comprised 37% and 63% of all cases. Of the PTCL cases, histology was PTCL-NOS in 53 (42%), anaplastic large cell (ALCL) in 33 (26%), angioimmunoblastic T-cell in 22 (18%) and others in eleven patients. A low International Prognostic Index (IPI) score was associated with significantly better overall survival (OS) for PTCL but score $\geqslant$2 was associated with a uniformly poor prognosis in PTCL (40 mths vs <9 mths). IPI was not useful in determining outcome in NK/T-cell lymphoma. Histology wise, ALCL was associated with a better 3 year OS of 60% as compared to other subtypes of PTCL (36−40%; p = 0.189). Compared with PTCL, extra-nodal NK/T-cell lymphoma was associated with a significantly inferior rates of complete remission (CR) (OR 1.74; 95% CI 1.50−1.97) and OS (HR 1.610; 95% CI 1.05–2.47). Further analysis into this subtype showed the nasal variant (n = 50) differed significantly from extra-nasal variant (n = 21) in terms of stage at presentation (stages I/II) (OR 1.45; 95% CI 1.29−1.62), with better CR rates (OR 1.67; 95% CI 1.51−1.82) and OS (HR1.50; 95% CI 0.75−2.99).
Conclusions: In this large series of T-cell lymphoma patients, extranodal NK/T-cell lymphoma especially extranasal variant is associated with a poor outcome when compared to PTCL. PTCL with low IPI scores may be treated with conventional chemotherapy but poor risk PTCL and NK/T-cell lymphoma regardless of IPI score are in dire need of novel strategies.

9224 POSTER

Role of salvage radiation therapy in Hodgkin Lymphoma with relapsed or progressive disease despite autologous stem cell transplant

J.S. Goda[1], C. Massey[2], J. Kuruvilla[3], M. Gospodarowicz[1], W. Wells[1], D.C. Hodgson[1], A. Sun[1], A. Keating[3], M. Crump[3], R.W. Tsang[1]. [1]*Princess Margaret Hospital, Radiation Oncology, Toronto, Canada;* [2]*Princess Margaret Hospital, Biostatistics, Toronto, Canada;* [3]*Princess Margaret Hospital, Medical Oncology and Hematology, Toronto, Canada*

Background: Hodgkin Lymphoma (HL) patients (pts) who have relapsed or progressed following autologous hematopoietic stem cell transplantation (ASCT) have poor prognosis. The efficacy of salvage radiotherapy (RT) in terms of local control and survival was analysed through a chart review.
Methods and Patients: Among 347 pts with recurrent/refractory HL who received ASCT from 1986−2006, 163 had post-ASCT progression or relapse. Of these, 56 received salvage RT and form the basis of this report (progression: 13; relapsed: 43). The M: F ratio was 1.3:1. Median age at salvage RT was 32 yrs (range, 19.4−61.6). Disease was confined to lymph nodes in 32 pts while 24 had both nodal and extranodal disease (frequently in bone, 18/24 pts). RT alone was given in 34 pts (61%), while RT and chemotherapy (CT) was given in 22 (39%). Median interval from ASCT to relapse was 0.5yrs (range 0.1−5.5) and from ASCT to salvage RT was 0.8 yrs(range 0.1−5.6). All the involved sites were radiated in 39 pts (70%) while 17 (30%) were radiated at symptomatic sites only. The median RT dose was 35 Gy (range, 8−40.3), and 84% pts received 30−40 Gy. RT technique was extended field in 20 pts (36%), and involved field in 36 (64%). Survival was calculated from the start date of RT. Disease progression in the RT volume was regarded as *local* failure, while progression outside RT volume was judged as *systemic* failure.
Results: The median follow up from RT was 31.3 mo (range 0.2−205.5). Overall response rate was 84% (CR: 36%, PR: 48%). The median overall survival (OS) was 40.8 mo (95% CI, 34.2−56.3). The 5-year OS was 32% (95% CI, 17−49). The 2-year PFS was 16% (95% CI, 8−27), the 2-year *local* PFS was 69% (95% CI, 57−81), while the 2-year *systemic* PFS was 17% (95% CI, 0.09−0.31). The 1-year PFS was significantly higher in pts where all diseased sites were irradiated (49%) compared to those where only the symptomatic site was treated (19%, p = 0.01). Among 20 alive pts, 9 had systemic progression, 5 had both systemic & local progression, 1 had local progression and 5 were disease free (at 5.6, 6.3, 6.4, 7.5, and 17.1 yrs). Of these 5 long term survivors, 3 were in continuous CR following salvage RT, 2 had relapsed after RT and received further therapy (one with 2nd course RT, other with RT+CT), but both > 5 years beyond last treatment were disease free.
Conclusion: RT results in high rates of local disease control in chemotherapy refractory HL. However, pts who fail ASCT have a poor prognosis with systemic progressive disease in the majority. In selected cases RT provides a local control rate of 70% at 2 yrs and occasionally leads to long-term survival.

9225 POSTER

Hodgkin lymphoma treatment with ABVD in the US and the EU: neutropenia occurrence and impaired chemotherapy delivery

M. Schwenkglenks[1], R. Pettengell[2], E. Culakova[3], G.H. Lyman[3]. [1]*On behalf of the Impact of Neutropenia in Chemotherapy – European Study Group (INC-EU), European Center of Pharmaceutical Medicine University of Basel, Basel, Switzerland;* [2]*On behalf of the Impact of Neutropenia in Chemotherapy –European Study Group (INC-EU), St George's University, London, United Kingdom;* [3]*On behalf of the Awareness of Neutropenia in Chemotherapy Study Group (ANC), Duke University, Durham North Carolina, USA*

Background: In newly diagnosed patients with Hodgkin lymphoma (HL) the effect of doxorubicin, bleomycin, vinblastine and dacarbazine (ABVD)-related neutropenia on chemotherapy delivery is poorly documented.
Materials and Methods: Two similarly designed prospective observational studies conducted in the US (115 community practices) and the EU (Belgium, France, Germany, Spain, UK; 66 clinical centres), observed HL patients who started a new course of ABVD in 2002−2005. Patients were followed over the first 4 cycles of treatment. Datasets were merged and definitions reconciled to gain information on US and EU treatment patterns and the incidence of grade 4 chemotherapy-induced neutropenia (CIN; absolute neutrophil count [ANC] <500/mm^3), febrile neutropenia (FN; ANC <1000/mm^3 and fever/infection), chemotherapy delivery and colony-stimulating factor (CSF) use. Univariate associations between variables were explored in the pooled dataset.
Results: The age range was 19−83 years (median 36; 49% female) in 68 US patients and 18−74 years (median 34; 38% female) in 47 EU patients. US patients had slightly higher body surface area (median 1.9 m^2 vs. 1.8 m^2), a higher incidence of stage III/IV disease (42% vs. 30%) and were more often pre-treated with radiotherapy (9% vs. 0%). Typically, 4 cycles (US 41%, EU 34%) or 6 cycles (US 56%, EU 55%) of ABVD were planned. In the EU and in the US, median planned dose intensities (expressed on the basis of actual body weight) met the ABVD standard of bleomycin, 5 units/m^2/week; doxorubicin, 12.5 mg/m^2/week; dacarbazine, 187.5 mg/m^2/week; vinblastine, 3 mg/m^2/week. Observations during cycles 1−4 are shown in the Table. The relative risk (RR) of CIN was 0.35 for patients with vs. without primary CSF prophylaxis and the RR of dose delays was 1.55 for patients with vs. without CIN. Other univariate associations considered were not statistically significant.
Conclusions: In this population of HL patients CIN and FN occurrence was substantial. Chemotherapy delivery was suboptimal in 18−22% of patients. Use of primary CSF prophylaxis in ABVD patients was more common in the US than the EU and appeared to reduce CIN rates.

CSF prophylaxis, neutropenic events and chemotherapy delivery

Parameter	US (N = 68)	EU (N = 47)
Primary CSF prophylaxis	37%	4%
CIN occurrence	24%	32%
FN occurrence	12%	11%
Dose delays > 3 days[1]	41%	57%
Dose reductions > 10%[b]	22%	9%
Average relative dose intensity[a] $\leqslant$ 85% of standard ABVD	22%	18%

[a]Per cycle; [b]Excluding vinblastine

9226 POSTER

Chronic fatigue in Hodgkin lymphoma survivors – does it affect mortality?

C.E. Kiserud[1], J.H. Loge[1], M. Cvancarova[1], A. Fosså[2], H. Holte[2], S.D. Fosså[1]. [1]*The Norwegian Radium Hospital, Department of clinical cancer research, Oslo, Norway;* [2]*The Norwegian Radium Hospital, Cancer Clinic, Oslo, Norway*

Background: Long-term survivors after Hodgkin lymphoma (HLSs) are at increased risk of chronic fatigue (CF). It is not known whether CF in