pediatric lymphoma

170 SHOULD TEENAGERS WITH HODGKIN LYMPHOMA (HL) BE TREATED IN PAEDIATRIC OR ADULT PROTOCOLS?

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Aims: In France, adolescents can equally be treated in a paediatric or an adult care unit. Since treatment policy highly depends upon this choice, we found important to describe their outcome after adult or paediatric protocols and to define the most appropriate strategy.

Patients and methods: Between January 1982 and December 1998, 2,358 patients < 30 years were enrolled in 3 paediatric and 5 adult protocols. Paediatric protocols were based on ABVD, MOPP-ABVP, OPPA-COOP or VBVP and 20 Gy involved-field irradiation (IFRT) after good response to chemotherapy. Adult protocols were based on mantle or subtotal nodal irradiation alone or a combination of MOPP, ABVD, MOPP-ABV or EBVP and mantle or IFRT. Radiation doses ranged from 35 to 40 Gy. Teenagers were treated either in paediatric or adult protocols.

Results: There were 529 children (C) aged 0 to 14, 450 teenagers (T) aged 15 to 19 and 1379 young adults (A) aged 20-29 years at diagnosis. Teenager characteristics were closer to young adults ones than to children ones. Most differences related to sex ratio, mediastinal involvement, disease extension, histological subtype and B symptoms. 70 teenagers were treated with paediatric protocols and 380 with adult protocols. After a 7 year median follow-up, the 10-year TFFS rates were 87%, 85% and 82% for C, T and A, respectively (p=0.02), and the 10-year OS rates 93%, 89% and 91%, respectively (p=0.02). Among teenagers, the results of paediatric and adult protocols did not statistically differ; however, the burden of therapy was clearly different. Among teenagers treated in paediatric protocols, 30% received a chemotherapy devoid of alkylating agents and anthracyclines while 51% had alkylating agents and anthracyclines. Among teenagers treated in adult protocols, all received either alkylating agents or anthracyclines of whom 57% had both alkylating agents and anthracyclines. Radiation fields and doses were also dramatically reduced in paediatric protocols.

Conclusions: The similar outcomes of teenagers treated in paediatric and adult protocols appeals to include teenagers in the less intensive protocols.

171 BURKITT LYMPHOMA AFTER SOLID ORGAN TRANSPLANTATION IN CHILDREN

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Introduction/background: Burkitt lymphoma (BL) after solid organ transplantion (transpl) is said to have a worse outcome than the other post transpl lymphoproliferative diseases.

Material/methods: After enquiry into French pediatric organ transpl centers and into the *Registre National des Hemopathies de l'Enfant*, 13 cases of histologically proven BL, <18 years (y) of age, were reported (1997-2007) and retrospectively analysed.

Results: 11 cases were eligible [1 death before diagnosis (dg), 1 clinical file lost]: 9 boys, 2 girls. 9 patients (pts) had liver (L) and 2 kidney (K) transpl. Median (med) age at transpl was 14 months (m) (L), 8y 7m (K). EBV seroconversion occurred at a med time of 9m after transpl and 20m before BL. At dg, K graft recipients had a mean clearance of 50 ml/min/sqm, 3 L graft recipients were showing chronic rejection. The med time of BL onset was 2y 9m (L), 1y 11m (K). There were 6 stages III, 1 stage IV, 4 L3 ALL. 10/11 pts had high EBV blood viral load at dg. Immunosuppressive treatment was reduced in all cases (no acute rejection observed), 3 pts received rituximab without efficacy. 10/11 pts were treated according to SFOP LMB96 or LMB2001 protocol. 3 pts underwent dialysis at dg (1 K) but 1 pt (L) died of tumor lysis syndrome on day 2. The infectious complications included documented bacteriemias (5 pts), fungal infections (2 pts), 1 lung abscess (1 pt). 1 pt presented a severe neurological toxicity due to high-dose aracytine. The 9 pts effectively treated by the LMB protocol are in 1st complete remission with a med follow-up of 4 y. The pt treated with prednisone + cyclophosphamide died in early relapse.

Conclusions: Post transpl BL children can be cured by intensive treatment such as SFOP LMB although infectious complications can be more frequent and severe. BL and its management seem to have little influence on the graft (direct toxicity or rejection).

We thank physicians and surgeons from transpl centers who referred the pts.

172 DIAGNOSTIC EFFECTIVENESS OF FDG-PET FOR THE INITIAL STAGING OF CHILDHOOD NON-HODGKIN LYMPHOMAS

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Introduction/background: Positron emission tomography with fluorine-18-fluorodeoxyglucose (FDG-PET) was proven useful in the management of aggressive non-Hodgkin lymphomas (NHL) in adults. Experience with PET in childhood NHL is limited. The aim of our study was to assess the usefulness of PET for initial staging of childhood NHL and its impact on the therapy planning.

Material and methods: In this prospective study 36 children and adolescents (age range, 3 to 19 years) with histologically proven NHL (Burkitt's NHL, n=14; diffuse large B-cell lymphoma, n=12; lymphoblastic NHL, n=5; peripheral T-cell lymphoma, n=5) were included. Staging was based on the Murphy classification. PET scans were compared with the results of conventional staging methods (CSMs), including ultrasound, computed tomography, magnetic resonance imaging, bone scan, and bone marrow examination; follow-up data (mean follow-up-time, 3 years); and histology. A lesion- and patient-based analysis of PET and CSMs were performed.

Results: PET revealed 23 additional lymphoma manifestations (13 nodal, 10 extra-nodal) in 12 patients (33%), and failed to visualize bone marrow infiltration (15% lymphoma cells) in 1 patient with lymphoblastic NHL. In 1 patient with diffuse increased bone marrow FDG uptake, bone marrow examination demonstrated only benign myeloid hyperplasia. PET and CSMs indicated the same clinical stage in 29 of 36 patients (80%). Different stage was documented in 7 children. PET correctly modified stage in 5 children; in 2 patients was incorrect. Sensitivity for PET and CIM for pre-treatment staging was 96% and 86%, specificity 88% and 88%, and accuracy 94% and 86%, respectively. As a consequence of these PET findings chemotherapy plans were modified in 3/36 (8%) children.

Conclusions: PET contributed to more accurate initial staging of children with NHL. Compared with CSMs, PET was significantly superior in detection of nodal (normal sized nodes) and extra-nodal lymphoma (spleen, liver and bone) involvement.

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173 INTENSIVE CHEMOTHERAPY FOR SYSTEMIC ANAPLASTIC LARGE CELL LYMPHOMA IN CHILDREN AND ADOLESCENTS: FINAL RESULTS OF CHILDREN'S CANCER GROUP STUDY 5941

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Background: Anaplastic large cell lymphoma (ALCL) is characterized by advanced disease (70-80% of pediatric cases) and accounts for 10-15% of childhood lymphomas. Treatment strategies for pediatric ALCL vary from short B-NHL chemotherapy to prolonged leukemia therapy. The optimal treatment strategy is unknown.

Methods: CCG-5941 used a compressed aggressive multiagent T-cell lineage chemotherapy regimen consisting of a three week induction therapy (vincristine, prednisone, cyclophosphamide, daunomycin, asparaginase) followed by a three-week consolidation period (vincristine, prednisone, etoposide, 6-thioguanine, cytarabine, asparaginase, methotrexate) followed by six courses of maintenance chemotherapy at 7-week intervals (cyclophosphamide, 6-thioguanine, vincristine, prednisone, doxorubicin, asparaginase, methotrexate etoposide, cytarabine).

Results: 86 children (male 56%) with non-localized ALCL (CD30+) were treated. The majority of tumors were positive for ALK (90%) and of T lineage (83%). Extranodal disease was common (mediastinum 35%, skin 15%, lung 14%, bone 12%, bone marrow 13%, liver 6%, and other viscera 17%). The 5 year EFS was 68% (95% CI of 57-78%) and the 5 year OS was 80% (95% CI of 69-87%). There were 21 relapses and 4 toxic deaths as first events. Relapse occurred early with 17 (81%) relapses occurring within 2 years of diagnosis and 12 (57%) while receiving therapy. Univariate analysis

for risk factors only identified bone marrow involvement predicting lower EFS (*P*=.03). Grade 4 neutropenia occurred in 82% of patients.

Conclusions: CCG-5941 demonstrated efficacy similar to previously reported regimens but with significant hematologic toxicity. The question of intensity and duration of therapy for pediatric patients with ALCL remains unanswered. International collaboration is needed to define the optimal treatment strategy for children with ALCL.

174 CENTRAL NERVOUS SYSTEM DISEASE (CNS) IN CHILDHOOD ANAPLASTIC LARGE CELL LYMPHOMA (ALCL): EICNHL EXPERIENCE

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Background: CNS disease is a recognized rare manifestation of ALCL.

Material and methods: CNS disease incidence, mode of presentation, other sites of disease and outcome were analysed in children enrolled in a multicentre international prospective study for childhood ALCL, ALCL99, from 9 European Groups and Japan. Involvement was defined as >5 blasts/mm^3 in CSF with morphology consistent with ALCL, an intracerebral tumour (ICT) on imaging or unexplained cranial nerve palsy.

Results: 12 children with CNS disease from 529(2.3%) enrolled in ALCL99 from Nov1999 – May 2006. M:F ratio=1, median age 10.5yrs. 3 patients had isolated CNS disease (ICNS), all with an ICT. 9 patients had other sites of disease, including mediastinal, visceral or skin in 8. 7had ICT's; associated with CSF blasts in 2, and cranial nerve palsy in 4. 5 had blasts in the CSF and no ICT.

Treatment: ALCL99 protocol (3), high risk arm of the BFM (4) or LMB protocol (5).4 patients with ICT's including 2/3 with ICNS also received cranial irradiation (RT). 10/12 achieved CR with 1st line treatment. 6 relapsed or progressed during 1st line treatment, median 6.5 months. The CNS was involved again in 3/6, 2 of which had an ICT and 1 had blasts as initial CNS disease. With a median follow up of 28 months, 8 are alive, 6 in CR1 and 2 in CR2. 2 died of disease and 2 of treatment related toxicity. 2 with isolated CNS disease who received RT remain in CR1. 1 with ICNS, relapsed in the CNS only, had RT as part of 2nd line treatment and remains in CR2.

Conclusions: CNS is a rare site of disease in patients with ALCL. Its presentation as isolated disease or as a site in more disseminated disease should perhaps be considered separately. In the former, radiotherapy may have role in tumour disease control. In the latter, in this cohort, CNS disease was usually seen in association with advanced stage disease.

175 PROGNOSTIC FACTORS IN ADVANCED-STAGE PEDIATRIC ANAPLASTIC LARGE CELL LYMPHOMA (ALCL): ANALYSIS OF PATIENTS FROM TWO CONSECUTIVE PEDIATRIC ONCOLOGY GROUP (POG) STUDIES

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Background: ALCL has a poorer event-free survival (EFS) than other pediatric non-Hodgkin lymphomas (NHL). A European study identified visceral, mediastinal and skin involvement as poor prognostic factors (PF) in childhood ALCL.[1] In North America, advanced-stage ALCL is treated with longer, more anthracycline-based therapy without alkylators. It is unclear whether the same PFs apply. Our objective was to identify PFs in advanced ALCL that might suggest a requirement for more aggressive therapy.

Methods: The study charts of patients with a confirmed diagnosis of ALCL treated on two POG randomized trials for advanced LCL (8615 and 9315) were reviewed retrospectively for a list of possible PFs developed a priori, based partially on results of the European study. The relationship between EFS, OS and each PF was evaluated using the Kaplan-Meier method, and the log-rank test for differences between groups, adjusting for multiple testing.

Results: Of the 128 patients, 27 (21%) patients died and 35 (27%) patients relapsed. The 4-year projected EFS and OS was 58% (SE=4%) and 76% (SE=4%) respectively. In univariate analysis none of our PFs of interest had a significant effect on EFS: mediastinum (p=.45), viscera (p=.26), skin (p=.76), spleen (p=.37), multiple-bone (p=.42), liver (p=.55), lung (p=.77), Murphy stage III vs. IV (p=.02), sex (p=.94), age (p=.11), B-symptoms (p=.80), and LDH>500 (p=.37). Similar results were observed with OS. All patients had advanced disease. In contrast, the 5-year EFS and OS for early stage ALCL on POG9219 was 84% and 100% respectively.[2]

Conclusions: Mediastinal disease, visceral involvement and skin involvement – significant in multivariable analysis in ALCL children treated on European protocols – were not found to be predictive for patients on APO-based therapy in two consecutive POG studies. Only advanced-stage compared to early-stage appears to predict outcome in childhood ALCL in North America.

[1]Le Deley MC et al. Ann Oncol 1999, 10(S3).

[2]Link MP et al. ASCO Proc. 2004, 795.

176 COMPARISON OF FLOW CYTOMETRY AND QUANTITATIVE PCR TO MEASURE CIRCULATING TUMOR CELLS IN NPM-ALK POSITIVE ANAPLASTIC LARGE CELL LYMPHOMA

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Introduction: Quantification of occult circulating tumor cells in bone marrow or blood allows identifying patients with a high risk for relapse in NPM-ALK positive anaplastic large cell lymphoma (ALCL). We compared a flow cytometric (FCM) assay with the established quantitative real time PCR for *NPM-ALK* for the quantification of circulating tumor cells in 21 patients with ALK positive ALCL.

Methods: The FCM assay is based on the simultaneous detection of intracellular ALK- and surface CD30-expression of ALCL cells. Its sensitivity had been shown to reach 10^{-5} in cell dilution experiments. 25 bone marrow (BM) or peripheral blood (PB) samples from 21 patients with an ALK positive ALCL could be analyzed by both methods. The samples were obtained either initially or at relapse diagnosis. Control PB and BM samples were available from healthy controls (PB) and seven patients with other hematological malignancies (BM).

Results: No ALK- and CD30-double positive cells were detected in the control samples. The results of the FCM assay and quantitative PCR for *NPM-ALK* correlated in all samples from 20 of the 21 ALCL patients. Only one patient showed a discrepancy: a high *NPM-ALK*-copy-number could be detected in PB and BM but no CD30 and ALK expressing cells by FCM. The sensitivity of the quantitative real time PCR exceeded the one of FCM by at least one log.

Conclusion: FCM with antibodies against ALK and CD30 can sensitively and specifically detect circulating ALCL cells in BM and PB. The results correlate well with those of quantitative real time PCR for *NPM-ALK*. However, it needs to be tested in a larger cohort of patients whether its sensitivity suffices to substitute quantitative PCR.

177 INCIDENCE, CLINICAL CHARACTERISTICS AND OUTCOME OF PATIENTS WITH COMPLETELY RESECTED STAGE I DISEASE OF ANAPLASTIC LARGE CELL LYMPHOMA

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Introduction: ALCL patients (pts) usually suffer from advanced stage disease. Less is known on pts with primarily completely resected stage 1 disease. In 1999, the EICNHL Group involving most European groups and Japan designed a prospective multicentre trial (ALCL99) in order to standardize the therapeutic approach for pediatric ALCL, stratified by stage of disease and risk organs.

Material and methods: Pts with primarily completely resected stage 1 disease, except for isolated skin lesion, received three 5-day courses of chemotherapy. Treatment duration was 10 weeks.

Results: 6 pts with a completely resected stage 1 disease were identified out of 529 pts (1.1%) enrolled in ALCL99 from Nov 99-May 2006. M:F ratio was 1:1 and median age 9.6 yrs (range 2.6-13.3). No patient had B-symptoms or a lymphomatoid papulosis history. Disease location was axillary lymph node (LN) (3 pts), cervical LN (1), inguinal LN (1), and occipital soft tissue (1). Initial serum LDH level was normal in all but 1 pt. Histological subtyping demonstrated classical ALCL in 3 cases, mixed ALCL in 2 and Hodgkin's-like ALCL in 1 pt. The immunophenotype was proven T-cell-type in 5 cases and not determinate in 1. ALK-expression was detected by immunostaining for all cases. Therapy-related-toxicity was low, except for grade 3/4 hematological toxicity (grade 4 neutropenia after 15/18 courses, grade 3-4 thrombopenia after 8/18 courses). All pts are alive in first remission with a median follow-up of 4.0 yrs (range 2.3-7.0).

Conclusions: Our data demonstrate that primarily completely resected stage 1 disease of ALCL has a very low incidence, often involves peripheral lymph nodes and may have an excellent prognosis with a very short pulse-like chemotherapy.

178 OUTCOME AND TOXICITY OF TWO SUBSEQUENT ALL-LIKE NATIONAL PROTOCOLS, AIEOP LNH-92 AND LNH-97, FOR LYMPHOBLASTIC LYMPHOMA OF CHILDHOOD

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Introduction: AIEOP LNH-92 protocol was an LSA2-L2 based treatment for lymphoblastic lymphoma adopted in Italy in the early nineties. It showed a considerable hematologic, hepatic and gastro-intestinal toxicity (WHO grade III-IV), mainly in the Induction phase, causing drug dose-reductions and delays in the initiation of the following Consolidation phase. Thus, the subsequent LNH-97 protocol included modifications of the induction phase (dose/schedule of antracyclines, L-asparaginase and cyclofosphamide), introduction of the Re-induction phase and reduction of Maintenance phase intensity. We analyzed survival and toxicity of the two consecutive protocols.

Materials and methods: Comparative analysis of survival for the two protocols based on Kaplan-Meier and log-rank tests, and of WHO grade III-IV toxicity, in the Induction and Consolidation phases according to Mann-Whitney test. Descriptive analysis of toxicity during Re-induction for LNH-97 protocol.

Results: The LNH-97 protocol achieved a better 5-year survival than LNH-92: OS 81% vs. 74%; EFS 74% vs. 69%, although not statistically significant. 48/55 patients were evaluable for toxicity during Induction in the LNH-92 protocol and 101/101 in the LNH-97 protocol. A total of 52, 41 and 15 episodes of hematologic, hepatic and gastro-intestinal toxicity, respectively, were observed in LNH-92 vs. 81, 35 and 25 in LNH-97 (p=0.02, P=0.01 and p=0.3). During Consolidation phase, the 48 patients of the LNH-92 protocol showed 64, 16 and 1 episodes of hematologic, hepatic and gastro-intestinal toxicity vs. 125, 32 and 21 episodes in 99/101 evaluable patients in the LNH-97 protocol. In the Re-induction phase of LNH-97 124, 27 and 18 episodes of hematologic, hepatic and gastro-intestinal toxicity, were observed in 86/101 evaluable patients.

Conclusion: Changes adopted in protocol AIEOP LNH-97 improved survival and caused an overall reduction of hematologic, hepatic and gastro-intestinal toxicity in the most intensive portion of the treatment.

179 A COMPARISON OF PEDIATRIC T-CELL LYMPHOBLASTIC LYMPHOMA AND T-CELL LYMPHOBLASTIC LEUKEMIA FOCUSED ON LOSS OF HETEROZYGOSITY OF RELEVANT CHROMOSOMAL REGIONS

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Introduction: Typical chromosomal deletions have long been identified in pediatric T-cell lymphoblastic leukemia (T-ALL). However, for T-cell lymphoblastic lymphoma (T-LBL) molecular and cytogenetic data are scarce.

Methods: The study focused on the frequency, the association with clinical characteristics and the prognostic impact of Loss-of-heterozygosity (LOH) in 114 T-LBL patients (pts) and 125 T-ALL pts treated according to ALL-BFM treatment strategies. LOH in the DNA of malignant cells indicates alterations of DNA with possible functional deletion. A set of 45 markers were analyzed in the following chromosomal regions of functional relevance: chromosome 6q using 25 markers (m), chrom.7q (4 m.), 9p (5 m.), 11q (5 m.), 12p (5 m.) and 17p (1 marker in p53).

Results: In 114 T-LBL pts a total of 4564 markers and in 125 T-ALL pts a total of 5724 markers were analyzed successfully. In T-LBL, 19% of pts were positive for LOH at 6q, 4% for LOH at 7q, 48% for LPH at 9p, 5% for LOH at 11q, 6% for LOH at 12p and 4% for LOH at 17p in the p53 gene. In T-ALL, 12% of pts were positive for LOH at 6q, 2% for LOH at 7q, 51% for LOH at 9p, 2% for LOH at 11q, 7% for LOH at 12p and 1% for LOH at 17p. Regarding clinical characteristics, LOH at 6q was not associated with specific patients' characteristics. LOH at 9p was associated with male gender in T-ALL and T-LBL. However, LOH at 9p was associated with elevated LDH level in T-ALL, but not in T-LBL. Regarding the prognostic impact, LOH at 9p was not associated with outcome. LOH at 6q was associated with an increased relapse rate in T-LBL but not in T-ALL.

Conclusions: Overall, the current study showed comparable results for the frequency of specific molecular genetic alterations in pediatric T-ALL and T-LBL. However, detailed analysis of these alterations revealed differences between pediatric T-ALL and T-LBL. These results might hint at biological differences between T-LBL and T-ALL.

180 HODGKIN'S DISEASE IN DEVELOPING COUNTRIES CHILDREN: OUTCOME WITH CHEMOTHERAPY ALONE

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Background: To assess the efficacy of chemotherapy alone, using four cycles of COPP alternating with four cycles of ABVD in all stages of childhood Hodgkin's disease (HD).

Procedure: Reports, Between January 1996 and February 2006, 148 previously untreated patients were investigated, treated, and analyzed for remission and survival.

Results: There were 134 boys and 14 girls with a median age of 8 years, 75% were less than 10 years old. 63.5% had advanced stage disease (IIB-IV). B symptoms were present in 54.4% of cases; bulky mediastinal mass in 18 cases (12.2%); spleen and bone marrow involvement in 22 (14.9%) and four cases (2.7%), respectively. Mixed cellularity (MC) subtype was found in 86.0%. Response to treatment was evaluated in 133 patients: complete remission (CR) was achieved in 121 patients (91.0%), partial remission (PR) in seven (5.3%), progression occurred in two (1.5%), and three (2.3%) died on therapy. Four patients with mediastinal residual disease were given additional involved field radiotherapy. Out of 111 patients analyzable, five (4.5%) have relapsed 6-30 months after completing chemotherapy, and were treated with additional cycles of ABVD and low-dose involved field radiotherapy. The 5-year actuarial overall survival (OS) and event-free survival (EFS) are 91.5 and 87.9%, respectively. Advanced stage, B symptoms, anemia, spleen, and marrow involvement were adverse prognostic factors for survival.

Conclusions: Chemotherapy alone with alternating COPP/ABVD, without additional radiotherapy, provides high rates of durable remission and is an effective therapy in childhood HD in developing countries, even in case of large mediastinal mass and peripheral or abdominal bulky disease.

181 A PILOT STUDY OF MYELOABLATIVE (MA) AUTOLOGOUS STEM CELL (AUTOSCT) FOLLOWED BY REDUCED INTENSITY ALLOGENEIC TRANSPLANTATION (RI ALLOSCT) IN CHILDREN WITH POOR RISK HODGKIN'S DISEASE (HD) AND NON-HODGKIN'S LYMPHOMA (NHL)

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Background: AlloSCT may benefit patients with poor risk HD and NHL by providing a graft vs. lymphoma effect. In relapse/refractory (R/R) HD pts, Majhail et al (BBMT 2006) reported OS of 9%-37% post MA Auto SCT. Similarly, outcome for children with poor risk NHL remains dismal (Bradley/Cairo, BMT 2008). Carella et al (JCO 2000) demonstrated the success of MA AutoSCT followed by RI AlloSCT in adults with R/R lymphoma. We investigated the feasibility of MA AutoSCT followed by RI AlloSCT in children with poor risk HD (Induction failure, early relapse {<1yr}, late relapse [stage III-IV], 2nd and 3rd relapse) and NHL (induction failure, 1st, 2nd or 3rd PR and 2nd or 3rdCR) (estimated 30% OS).

Methods: MA conditioning prior to AutoSCT was CTX 1500 mg/m^2 x 4 d, BCNU 100 mg/m^2 x 3d, VP-16 800 mg/m^2 x 3d. AlloSCT conditioning was fludarabine 30 mg/m^2 x 5d, busulfan 3.2 mg/kg x 2d, and R-ATG 2 mg/kg x 4d (MUD). CD20+ NHL pts received rituximab and HD pts received involved field radiotherapy prior to RI AlloSCT.

Results: Seventeen pts: 9 NHL, 8 HD, median age: 15yrs, median f/u: 737d (195-2582). 2 did not proceed (parental withdrawal) to RI AlloSCT and one patient died before RI AlloSCT. Donors: 2 MRD, 3 MUD, 9 UCB. Median time to RI AlloSCT after MA Auto SCT was 113d (95-219). Engraftment was achieved at a median of 20d for PMN and 33d for platelets. Donor chimerism reached ≥ 95% in all eligible pts by d100. Toxicities were grade (3) hematuria (n=1), (3-4) infection (n=8), (4) pulmonary fibrosis (n=1), (4) hearing loss (n=1), (4) neurotoxicity (n=1). GVHD: grade II-III aGVHD (4/14), cGVHD (3/14). Ten pts are alive and NED post RI AlloSCT. Five pts died: 2 NRM and 3 relapsed. The probability of OS at 1yr is 66%.

Conclusions: MA AutoSCT followed by RI AlloSCT is feasible and well tolerated in children with poor risk HD and NHL. A larger study with longer follow up is required to determine if this approach will reduce relapse, long term toxicity and/or improve survival compared to MA AutoSCT alone.