Rituximab Based Regimen May Decrease the Incidence of CNS Relapse in Patients with Diffuse Large B-Cell Lymphoma

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Background

Relapse in the central nervous system (CNS) following initial treatment of diffuse large B-cell lymphoma (DLBCL) is an uncommon but fatal complication. However, the addition of rituximab improves the clinical outcome dramatically in DLBCL patients; its influence on CNS relapse is unproven.

Aim

This single centre retrospective study was conducted to investigate the incidence of CNS relapse, and to evaluate the impact of adding rituximab to standard CHOP (RCHOP) regimen without CNS prophylaxis in patients at risk of CNS relapse.

Patients and Methods

All patients with DLBCL diagnosed from April 2002 to December 2007 at sunnybrook cancer center were retrospectively identified in the Cancer Database. Patients were included if they were >16 years old, had advanced stage (stage III /IV, or stage I /II with B symptoms, elevated LDH or bulky disease, were treated with RCHOP regimen with curative intent and were free of CNS involvement at diagnosis. CNS relapse was diagnosed by CSF cytology, radiology or clinically.

Results

A total of 155 patients were newly diagnosed with DLBCL and treated with RCHOP only. 22 pts were excluded, 20 had CNS prophylaxis and 2 pts had CNS involvement. 133 pts were eligible (69 male and 64 female) Median age was 64 (Age≤60 was 59.4%). Stage III/IV was 69.9%. LDH was elevated in 59.4%. Bone marrow (BM) involvement and Extra nodal 2 were 18.05% and 25.6% respectively. EN sites were: (liver 4.5%, Bone 6.8%, Pulmonary 4.5%, kidney 3.01%, cardiac 1.5%, intestine 2.3%, testicular 1.5%). The International Prognostic Index was high-intermediate/high in 55.6%. Pathologically transformed was 12.03% were transformed from indolent histologies. BCL2 was positive in 65.4%, BCL6 was 48.9%, CD10 was positive in 49.6%, Ki-67 was >80% in 25%. All patients received RCHOP (Median 6 cycles, (range 2-8). Overall response (ORR) was 88.6%, CR/CRU 72.7% with a median follow up 24.6 months (range 2.6-75.5). 28 patients (21.05%) relapsed systemically. Two patients (1.5%) had a CNS relapse 1 brain parenchyma and 1 leptomeningeal one month after systemic relapse. The median time to CNS relapse was 10.4 mos (6.24-14.5 mos). In univariate risk factor analysis (LDH (p=0.8), IPI>3 (p=0.9), No of EN (p=0.9). Actuarial 5 y Overall Survival (OS) was 67.3% (95% CI (57-77%) and progression free Survival (PFS) was 65.7% (95% CI (52.3-78.6%).

Conclusion

Our data suggest that the addition of rituximab may reduce the risk of CNS relapse for poor risk patients likely through systemic control. Future prospective studies of rituximab-containing chemotherapies with CNS prophylaxis are warranted