A study of the clinico-pathological features, prognostic features and treatment outcomes among Indian patients with diffuse large B-cell lymphoma - A single center experience

**Background:** Diffuse Large B Cell Lymphoma (DLBCL) accounts for approximately 25% of all Non-Hodgkin’s lymphoma (NHL) in the developed world, making it the most common lymphoma. With the diversities in clinical presentation, morphology, molecular and genetic alterations, DLBCL represents a heterogeneous group rather than a single disease entity. Based on the cell-of-origin (COO) concept, gene expression profiling (GEP) has identified two major subtypes of DLBCL with differing prognoses. We aim to study the trends in the clinico-pathological features, prognostic factors and treatment outcomes following standard therapy in Indian population at tertiary care center.

**Methods:** A prospective study was conducted and all newly diagnosed patients of DLBCL between September 2009 and April 2016 were included. The clinico-pathological features, IPI score, extranodal involvement and stage of disease were recorded using a proforma. All patients received Rituximab based treatment which was modified according to their tolerability. Immunohistochemistry was performed for molecular subtyping.

**Results:** We included 189 consecutively diagnosed cases of DLBCL in the study. 52% (n=99) patients were ≥60 years and 48% (n=90) <60 years, the median age being 55 years. Majority were men (63%; n=119) versus women (37%; n=70). Fever (28%), pain abdomen (21%) and painless neck swelling (17%) were the most common presenting symptoms. SVC syndrome and bulky disease were noted in 12 (6.3%) and 10 (5.3%) of patients. 65% (n=123) had nodal predominant disease versus 35% (n=66) with extranodal disease; stomach (12.2%) and skeletal disease (6.3%) being the most common extranodal site. IPI score distribution was as follows: 28% (n=55) with low, 24.5% low intermediate, 22.2% high intermediate and 25.4% with high IPI score. Bone marrow involvement was detected in 20.1% (n=38) by bone marrow biopsy and 13.2% (n=25) by PET CT whole body scan. Stage IV disease was diagnosed in 52% (n=98), 21.2%, stage III 16.9% stage II and 10.1% in stage I. 89.4% were treated with R-CHOP with 92% receiving 6 cycles of chemotherapy. 68.4% achieved complete metabolic response (CMR), 22.7% (n=43) partial response (PR), 1.5% (n=3) progressive disease and 2.1% (n=4) died before completion of chemotherapy course. Better CMR rates were observed in patients <60 years versus >60 patients (75.5% [68 out of 90] vs. 53.5% [53 out of 99]; p=0.026). Molecular subtyping was performed in 116 patients with GCB subtype seen in 55.2% (n=64) and ABC in 44.8% (n=52). The CMR rates were seen in 71% (37 of 52 patients) of GCB subtype and 65% (42 out of 22 patients) of ABC subtype (p=0.65).

**Conclusions:** R-CHOP remains the standard of care for patients with DLBCL. However, literature reports a cure rate of only 60% with standard immuno-chemotherapy cures with 40% eventually dying of the relapsed disease. DLBCL can no longer be considered and treated as one disease. Efforts are in way to improve the standard of care and identify a new biological agent (X) to add on to the R CHOP backbone. It is also imperative to identify those prognostic markers that would identify subset of patients who would benefit from a more aggressive course.

**Biography**

Ashok K Vaid has authored a number of publications, research papers and abstracts and has been actively involved in organizing various seminars, workshops and conferences throughout the country. He has also conducted more than 40 international and national studies in clinical research. He has the unique distinction of having carried out the first 25 bone marrow transplants in any private sector hospital in North India.

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