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Epidemiologya Treatment Outcome of Diffuse Large B Cell Lymphoma (DLBCL): Indian Perspective

*Lalit Kumar and Ajay Gogia**

Department of Medical Oncology, Institute Rotary Cancer Hospital, All India Institute of Medical Sciences, New Delhi, India

Epidemiolgy

Non –Hodgkin Lymphoma (NHL) are heterogeneous group of lymphoid malignancies and accounts for 5 % of all malignancies in the west [1]. However precise data from India is limited. According to Globocan 2012, the Age specific rate of NHL is in India is 2.9/100,000 among males and 1.5/100,000 population in females (Table 1) [2].

In the Indian Population based cancer registry (PBCR), the incidence of NHL is 4.4%among males and 3.1% in Females (F). It is the 7th most common cancer in males and 6th most common cancer in females in Delhi (Figure 1) [3]. In India, the age-adjusted rate of NHL reported were highest in the state of Delhi [6.2 (M) & 4.6(F) per 100, 000 population] and lowest in the state of Meghalaya [1.0 (M) & 0.7(F) per 100, 000 population] (Figure 2). But these PBCR in India are primarily located in urban cities and cover only 10% of population (comparedto14% coverage in the USA and 27% in Europe). As 70% of Indian population lives in rural area, coverage of this population by currently existing cancer registries is still limited [4,5].

Patients Characteristics and Treatment Outcome

The most common pathological subtype of NHL is Diffuse Large B Cell Lymphoma (DLBCL) in various institutional experience and one nationwide registry based data (Table 2) [6-10]. The median age of DLBCL is 47-52 years with a male predominance. The younger average age among Indian patients is consistent with the pattern seen in most other malignancies in India , and can be due to the effect of a younger population pyramid in our country or due to the referral bias towards younger patients for treatment at higher centre. Higher male to female ratio has been observed in different studies from different part India and is comparable to those around the world [10-15]. B symptoms, advanced stage were present in 40- 50% of DLBCL patients, 20% of these patients have ECOG performance status (III & IV) and 25% of patients had bulky disease, which is slightly higher as compared with the western literature. Around 85% of patients were treated with CHOP or CHOP like regimen with a response rate of 75% and a complete response rate of 60%. This response rate is lower than western literature, and might be due to less rituximab use or an additional advanced disease at time of presentation. The use of rituximab was, 18% in one study and 38%, according to registry based data collective data from both private and public institution). The Event-Free Survival (EFS) and Overall Survival (OS) was slightly inferior (4yrs EFS=64% and OS is 74%) than reported in the western literature (4yrs EFS=70% and OS is 80%) [16]. There is marked improvement in the overall survival of these patients when compared with earlier studies from India (Table 4) [11,12]. In view of lack of comprehensive medical insurance and scarce resources, only a fraction of the patients could receive rituximab. However, the small subgroup treated with R-CHOP showed significantly higher CR rates and better EFS and OS in study by Prakash “et al”. [14]. The addition of rituximab to chemotherapy was also evaluated in registry data, and results showed superior PFS, but not OS which is in contrast to reports from randomized trials [16]. This may be due to the small number of patients in both the studies, and the survival benefit of adding rituximab to CHOP could not reach statistical significance. It is also possible that with increasing access to rituximab over the years in India, a considerable fraction of the first line rituximab naïve patients received it after relapse, blurring the OS difference. However, it is likely that it contributed in at least some measure to the poor outcome in this subgroup, because of a variety of factors such as financial and logistic constraints in our population. It will be important to study this factor in prospective studies because it is a potentially correctable cause of inferior outcomes of treatment. Higher stage, poorer performance status, and presentation with bulky disease in our population are largely due to delayed diagnosis. One of the reasons of late referral in our setup is the high prevalence rate of tuberculosis

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Correspondence:
Ajay Gogia, Department of Medical Oncology, Institute Rotary Cancer Hospital, All India Institute of Medical Sciences, New Delhi, India,
E-mail: ajaygogia@gmail.com

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which has signs and symptoms closely mimicking lymphomas. Due to lack of proper medical facilities in the distant areas of the country, more often these patients receive initial empirical treatment with Anti-Tubercular Drugs (ATT) for few months and are referred only when ATT fails. Treatment of NHL in a resource-limited country has its own challenges [14]. While difficulty in access to quality medical care in distant part of country leads to delay in presentation; financial constraints prevent therapy with rituximab-based regimen in most patients, which is the current standard of care.

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